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The American Journal of Photography

AN ILLUSTRATED MONTHLY

OF

PHOTOGRAPHY AND ALLIED ARTS

Volume XXIV

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WILFRED A. FRENCH

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The American Journal of Photography

Official Organ of the American Federation of Photographic Societies

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THE SWING
C. YARNALL ABBOTT

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Vol. XXIV **JANUARY, 1910** **No. 1**

The Sixth American Photographic Salon

GEORGE W. STEVENS

TOGETHER with a score of other elements entering into the making of a picture, there is one peculiar quality in much good painting, readily discoverable, but difficult to describe: a quality of texture, not of fabric or material, but of pigment — which ceases then to be pigment. Here you find it in the end wall of a little cottage by Jacob Maris; Whistler's canvases are sweet with it; now again observe it in the low-keyed gray-white collars of Frans Hals's sitters. Breitner, the Hollander, suffuses his compositions with it; Ben Foster finds it at times; J. Francis Murphy, always; and so do many masters past and present — many other masters have never found it, great though they may have been.

This texture, as elusive of description as the perfume of a flower — for who shall say the rose smells thus, the violet so — this texture, I repeat, is often found in good oils; sometimes, but rarely, in water-colors; and very, very often in the work of the photographer, when he is an artist. I doubt that the camera alone could find it, for it is a subtle something captured by a brain and set down by a master hand. When a picture possesses it one knows it to be a real picture, at a glance, whether it is seen upside down or sideways or through even the tail of the eye. This subtle texture can be felt and enjoyed in any position — it will even save a poor composition, which is saying a good deal. It is a quality in painting seldom observed or enjoyed by the layman, the pretender or the untrained average eye. The visitors in galleries looking for literary amusements, religious uplifts and the like in pictures see it not; but once it is recognized, for that fortunate has been opened wide another portal of the realm of beauty.

Why do I dwell upon this quality of texture? Because so seldom found even in good painting, it is more and more each day finding its way into the work of the master photographers — I do not like to say photographer; when a man's work reaches a certain excellence he ceases to be a photographer. One might as well call Charles Dana Gibson a pen-and-inker, or Whistler a copper-plater or Millet an oil-tuber; for it matters not where or how you get your picture, if you really get it. Great art is all one, whether it is splashed on with a brush, laid on with a palette-knife, daubed on with a rag, rubbed on with a thumb, washed out with a sponge or thrown on with a lens. Mediums or tools will produce art not one whit more than a set of ivory keys and a book of notes and bars will create music. It all lies in the brain that conceives and directs, understanding beauty of line, harmony, balance, rhythm, values, tone and composition.

The Sixth American Salon will make the Society of Western Artists, the American Water-Color Society, the New York Water Club, the Chicago Water-Color and others of their ilk sit up, stop, look,

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THE DANCER C. YARNALL ABBOTT

listen and whistle. To me it is far more interesting and really a greater contribution to art than the annual exhibition effort of the Royal Academy of England, which sounds like saying a good deal but really is not much; for this august assemblage of painters has of late given us a sickly rehash of "Milkmaids at the Bars," "The Parting Kiss," "The Village Wedding," "The Homecoming," "The Outgoing," "A Jolly Well-told Story" and sickly Paris green landscapes. Our American painters, too, must look to their laurels, particularly the workers in water-color, in view of the grand onward march and great achievement of the man with the camera. Our water-color shows of late have been filled in far too great part with threadbare, conventional productions. The old thing done once again, painful and familiar green contraptions and ancient time-worn rule-of-thumb compositions. On the other hand, glance at our photographic exhibits of recent years for relief. Take a run through the Sixth American Salon, for instance, for a breath of exhilarating ozone, and you will observe a fertility of imagination, invention

UNDER THE STUDIO-LIGHT HORACE E. STOUT

and creation both gratifying and inspiring.

Nature is not always good art, any more than all animals are good eating, or all fruits healthful or all people attractive. Portions of nature, even, which are pleasing to the senses are not always worthy subjects for the brush or lens. Art is something other than a map or record of pleasing things. A spectacular sunset may be inspiring, but a far better subject might be found in the tender gradation of values of some homely living-room, too subtle for the layman to even suspect their presence. So it is that the painter who paints all he sees, or the photographer who accepts all his camera can grasp, seldom produces good art. We cannot reproduce nature, but we can create something quite as complete in its own way. A completed and artistic print is a creation in itself, and the laws governing its beauty are as fixed and as absolute as the laws that swing the planets without friction.

At times, no doubt, a particularly good print is an accident; but when we look at the work of F. J. Bruguière, Paul Lewis Anderson, Walter Zimmerman, John Chislett, C. Yarnall Abbott, F. Austin Lidbury, W. H. Porterfield, Edward B. Sides, Horace E. Stout, F. L. Wright, Fedora E. D. Brown and a score or two

of other Americans in the Sixth Salon, we feel that here no accident or chance fortune has combined to produce their prints. The "Landscape," by Bruguière, contains all that the master Corot would have filched from nature. It is a tender passage beautifully arranged with all the deftness and delicacy of a master. The six prints of Paul Lewis Anderson are marvelous, not only for their arrangement, which would make them interesting though they possessed no other merit, but because of a remarkably vibrant luminous quality — a quality almost analogous with that given to the world by the impressionists of France. Some of his compositions, particularly his "Mist on the Hudson," would suffice as a vehicle for Monet. The luminarists, themselves, could ask for no more luminosity than is found in his "Summer Sunlight." That the camerist has been able to create this vibrant quality without the use of color is, in itself, a marvelous accomplishment. "The Dancer" by C. Yarnall Abbott, would make Sargent's portrait of Carnegie look like a clothing-store dummy, and yet some painters look down upon the productions of the camera, or blindly do not look at all. While Abbott has used his medium perfectly, this composition does not depend upon a medium for its excellence. The arrangement is masterful, quite the perfection of mastery. It hardly matters whether we look upon the dancer as a dancer at all — merely as an arrangement of spaces it is beautiful. The little white spot under the hand, or the glint of a bangle, is, in itself, like Katishaw's elbow, worth going many miles to see. The Japanese have given us something like it, but nothing more pleasing. Whistler, I know, would have paused before it appreciatively. Mr. Abbott's "In the Studio" is quite as interesting. Another commanding figure-study is Horace E. Stout's "Under the Studio-Light," a beautiful arrangement, subtle in feeling, tender in value and, above all, original in conception. When considering the figure-work, "The Closed Door," by W. and G. Parrish, cannot be ignored. It is beautiful as an arrangement in white; surprising in its dramatic force when one analyzes the filmy delicacy of its elements. W. H. Porterfield, in his "Lowlands of Jersey," has interpreted a bit of landscape with a power like unto Hobbema in "The Avenue." Here, again, there is no accident, but a sure knowledge of the power of composition, the laws of balance and the subtleties of value.

Almost every print in the present Salon could be taken for the text of a sermon. I started out to set down only a general impression. Unconsciously I have commenced particularizing. I am compelled to stop short, for every exhibitor has something worthy of serious mention. The Salon as a whole is most gratifying. Fresh eyes have grasped new beauties — new truths are here revealed in score upon score of tender, surprising, mysterious, poetic, serious, uplifting and masterful prints. I hardly know whether or not the world of art — painters and connoisseurs — realize that these new and great masters are among us. I am afraid that the world is not yet fully awake — it is a sleepy old world at times, the bulk of it lagging along a generation or so behind: the musicians decrying Wagner, the juries blind to Whistler, the painters to Millet, the docile, well-fed plain people kow-towing to rubbish most of the time. Yes, it is a fogyish old world; but when it does finally awaken — alas, often when the master sleeps — it is lavish enough in its appreciation and praise. And so the master of the lens will come, is coming, into his own. Painters all, look to your laurels. Forget mediums and go to this new master for an inspiration. The Sixth Salon will give any painter, any layman, the thrill of a new sensation. It is fresh, virile, invigorating, commanding and a potent factor in the art-development of the people, the country and the times.

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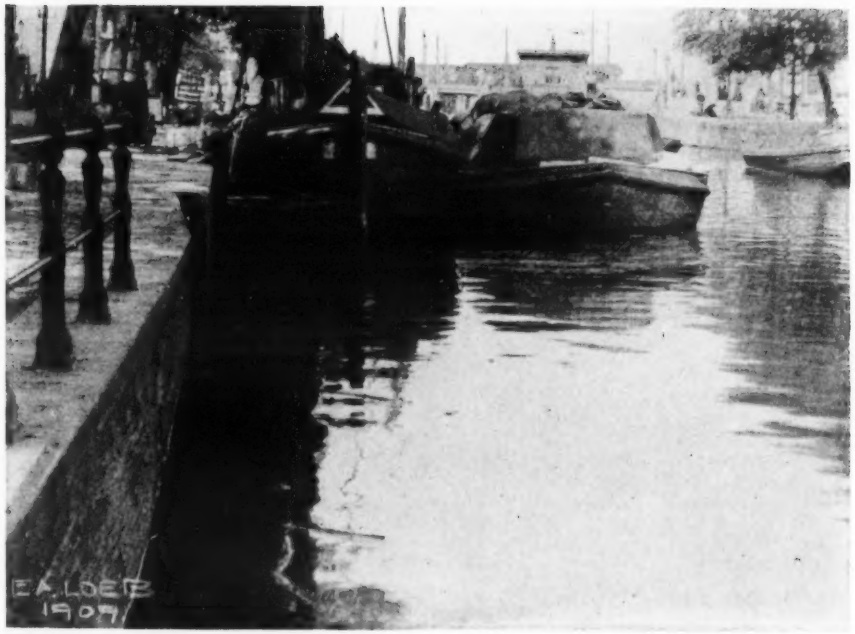


THE CANAL — E. A. LOEB

SIXTH AMERICAN PHOTOGRAPHIC SALON

The Autochrome Plate in Its Relation to the Color-Theory of Young and Helmholtz

FRED D. MAISCH

(*Concluded*)

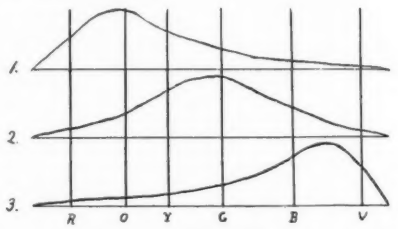
SO much for obtaining correct rendering of color. Reverting now to the theory, we find in a "Text-book of Color," by Ogden N. Rood, published in 1890, the following:

"According to Thomas Young, each minute elementary portion of the retina is capable of receiving and transmitting three different sensations, or we may say that each elementary portion of its surface is supplied with three nerve-fibrils, adapted to the reception of three sensations. One set of these nerves is strongly acted upon by long waves of light and produces the sensation we call red; another set responds most powerfully to waves of medium length, producing the sensation we call green, and finally, the third set is strongly stimulated by short waves, and generates the sensation known as violet.

"Nerves of the first kind are powerfully stimulated by red light, are much less affected by yellow, still less by green, and very little by violet light. Nerves of the second kind are much affected by green light, less by yellow and blue, and still less by red and violet.

"The third kind of nerves answers readily to violet light, and is successively less affected by other kinds of light in the following order; blue, green, yellow, orange, red. The next point in the theory is that, if all three sets of nerves are simultaneously stimulated to about the same degree, the sensation which we call white will be produced. These are the main points of Young's theory, published as long ago as 1802 and, more fully, in 1807."

Let us compare a camera containing an Autochrome plate with the eyes, as described by Thomas Young. The three sets of dyed grains in the plate correspond exactly to the three sets of nerves in the retina. For the longest waves of light and nerves of the first kind we have the red-orange grains; for nerves and light of the second kind, the green grains, and blue-violet grains for the third set. The blue-violet grains transmit the most actinic light and are, therefore, the least in number; while the red-orange grains transmit the least actinic light, and are, therefore, present in by far the greatest proportion of the three sets.



CURVES SHOWING THE ACTION OF DIFFERENT COLORS OF THE SPECTRUM ON THE THREE SETS OF NERVE FIBRILS (HELMHOLTZ)

Examined under the microscope the three sets of starch-grains are shown to be thoroughly mixed, and, although similar kinds do collect and form islands, the spaces occupied by them are too small to be discernible with the naked eye.

The nerves of the retina, as we have seen, convey to the brain the suggestion or sensation of color on account of the longer or shorter wave-lengths of light by which they are affected or stimulated. The starch-grains divide and transmit light in precisely the same manner. Blue-violet rays naturally pass most readily through the grains having the same color, and impress or affect the photographic emulsion in the same proportion as such rays happen to be reflected by the object photographed. The green and red-orange grains, of course, are penetrated by the rays which produce these sensations in the eye.

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Ordinary development of an exposed dry-plate will, as every one knows, produce a negative, and this negative will show the greatest opacity in the parts where the action of light has been the strongest, which parts are identical with the highest lights on the subject photographed. The greatest transparency will represent the darkest part of the subject. In like manner the Autochrome *negative* will be opaque or black where white light has acted and white in the black parts of the subject photographed. But only in the case of these two extremes will the appearance of the two plates be identical. As soon as the slightest tinge of color enters into our subject the results are remarkably different. The ordinary plate shows merely gradations from black to white, according to the actinic power of the light reflected from or by the various parts of the object. Blue, as is well known, will affect the silver salt almost as much as white, while the action of red is very feeble. By dividing light into the three parts which correspond to the three sets of nerves, as the Lumières have succeeded in doing, we will find that blue rays show the greatest energy behind the blue-violet grains, less behind the green and little, or none at all behind the red-orange grains. With correct exposure the blue rays will pass only through such grains and in such proportions as are necessary to make up the particular tint of these rays. The negative must, therefore, show the complement necessary to give the white impression, which is a yellow. Red rays will show the same action in inverse ratio, and the negative must show its complement — a green-blue. Examining the fixed-out negative by transmitted light, we can see only the color-grains which absorbed or intercepted, either wholly or partly, the action of the rays in the camera. The complement of blue being yellow, and the negative showing yellow, it follows that a certain red and a certain green acting together must also show yellow. This can readily be proven by examining an Autochrome negative of our flag, because it shows black stars on a yellow ground, and green and black stripes.

The second stage of the process is the changing of the negative into a positive which will show the original colors. This is accomplished in an acidified solution of potassium permanganate, which dissolves the silver reduced or oxidized in the first developer. The silver remaining in the plate is then submitted to the joint action of light and developer until sufficient density or correct brilliancy of color is obtained. The plate is then fixed out in the usual manner. If the object reflected any rays of exactly the same color as the starch-grains they will pass through these grains without hindrance and the developer will effect a complete reduction of the silver salt lying behind these certain grains. In the ordinary plate this would mean opacity of these points or areas; while in the Autochrome it means not only this, but also the complete covering or obliteration of these grains. Wherever this action has been complete the potassium permanganate bath will remove every particle of silver in these areas, and in place of opacity we will have transparency. If the original rays are of a composite color they will pass partly through one set of grains and partly through another, effecting a partial reduction of the silver behind both, and the permanganate bath will act in exactly the same proportion. After the reversal of the negative has been accomplished, and the positive produced, we can see those grain color-units which were penetrated by light during the exposure in the camera. It is this perfect and complete action of the permanganate bath which makes correct exposure an absolute necessity toward obtaining true colors. In case of an over-exposure the permanganate will uncover too many of the color-units, the result of which is pale colors; under-exposure will permit only partial action of the permanganate, resulting in dull colors or insufficient transparency.

A chart of one hundred national flags will serve as an illustration of the ability of the plate to reproduce colors and show their complements. The chart shows several shades of red, yellow, green and blue; the negative shows complements of these

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SUMMER SUNLIGHT — PAUL LEWIS ANDERSON

SIXTH AMERICAN PHOTOGRAPHIC SALON

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THE GUITAR — BARON A. DE MEYER

colors in the following order: greens, blues, reds and yellows. Before describing in detail some of the principal flags, it may be of interest to note a curious fact. Speaking broadly, blue, the most actinic color, finds its complement in yellow, the most vivid color of the spectrum; and red, the least actinic, finds its complement in the most restful, green.

The chart under consideration shows the British Red Ensign, French Ensign and our own Stars and Stripes. The red on all of these is equal in tint and true to B of a well-printed, normal spectrum. According to Helmholtz, the complement is a bluish green. The negative proves this to be correct, as it shows in these spaces a brilliant viridian green. The safest light to use in the dark-room, while developing an Autochrome plate, is a viridian green furnished by the Lumière Company, only of far less luminosity than the color shown to be complementary to red. Red, as is well known, is the "safe" light in which to develop an ordinary plate.

The Turkish Imperial Standard shows a carmine field, which is a slightly purplish red. The negative shows an almost

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emerald green, while laboratory tests have proven red-purple and emerald green to be complementary.

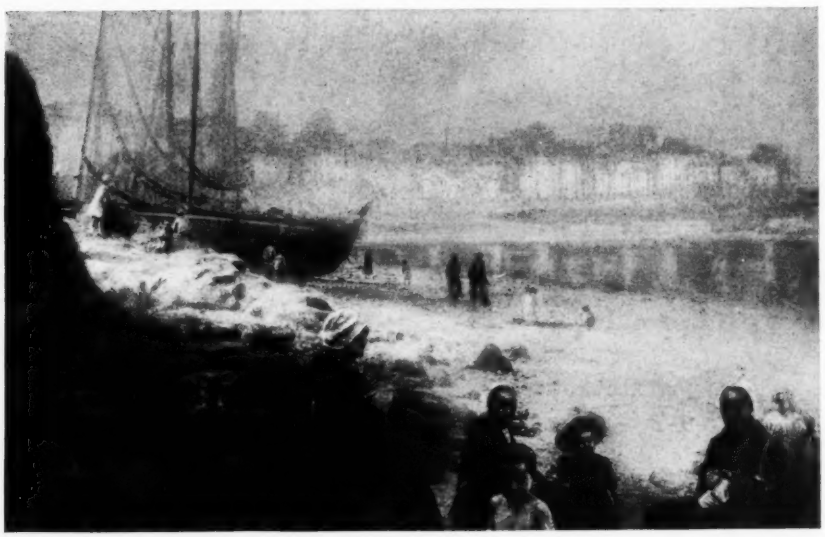
The Italian Ensign presents a dull green stripe equal to quarter-way between E and F of the normal spectrum print, only darker. Laboratory tests have proven green and purple to be complementary, and if the luminosity of the green is diminished, that of the purple must be increased. In dealing with pigments the luminosity of the green would be diminished by mixing with lamp-black; that of the purple would be increased by mixing with white. The negative shows a whitish purple as the complement of the green.

The British Blue Ensign, French Merchant and our own blue field are on this chart equal to about half way between F and G, showing more nearly an Antwerp blue than an ultramarine. The negative shows an orange-tinted yellow, while the complement of pure ultramarine is pure yellow.

The Argentine Merchant flag has medium cerulean blue stripes; the negative shows medium burnt umber. A darker tint of this blue would have produced an orange color in the negative, but as it is mixed with white, the negative must necessarily show a darker tone. In laboratory tests it has been found that by decreasing the luminosity of pure orange the result is brown.

The Spanish Merchant flag has chrome yellow stripes, for which the negative shows a deep French blue (a violet blue) more saturated than the spectrum shows at a point slightly more than half way between F and G.

This method of determining, at least, the complements of pigments is much easier than the use of Maxwell's disks, and much less laborious, since any number of colors can be photographed in groups. It seems particularly well adapted to class demonstration, and as such would prove very entertaining and instructive.



BRITTANY ROBERT DEMACHY

SIXTH AMERICAN PHOTOGRAPHIC SALON

The Projection of Opaque Objects

C. H. CLAUDY

"GIVE a novel entertainment at home and make big money! Postal-cards, photographs and colored views, thrown on a screen, greatly enlarged without lantern-slides, in all the beauty of natural tints. Cheapest and most efficient machine on the market. Price, $2.99, or Free with five pounds of Skinnums's Baking-Powder!"

It is this sort of advertisement and the kind of apparatus it depicts which makes the general public lose faith in opaque projectors! While there is no denying the difficulty of making these devices successful, or the fact that the earlier models were woefully inefficient, the modern affairs utilize all the light possible, instead of about one tenth that amount. Some models project eight- and ten-foot circles forty feet with fair success; but they don't come at $2.99!

Not one man in ten understands the underlying principles of opaque projection, although nine out of ten think they do. But the average amateur photographer's explanation of an opaque projector goes no further than this: opaque projection is ordinary photographic camera-projection reversed. In making a picture of a landscape, a brightly-illuminated scene reflects light from the sun, which enters a lens, and is focused upon a screen, the plate or film forming an exact but greatly reduced image of the landscape. In the opaque projector the greatly reduced image is the postal-card, or other "copy," which is brightly illuminated by artificial light, and the "landscape" is a screen in a darkened room, upon which the lens projects and focuses the light reflected from the postal-card.

Now this is all very true as far as it goes. But let us examine a little further. For the sake of argument and an exact parallel let us imagine a landscape ten feet square and ten feet distant from a lens which will produce a negative of it one foot square. The landscape, of course, is illuminated by sunlight. Each and every point in this landscape is reflecting this sunlight in all directions. Each and every point in the landscape reflects some rays of light into the lens of the camera, which form the image on the screen. As the size of the image is one one-hundredth that of the landscape, it follows that said image is one hundred times as brightly illuminated, to the eye, as the landscape, admitting for the sake of argument that the f. value of the lens used and the f. value of the lenses of the eyes are the same when looking at both ground-glass and scene.

Now reverse this idea, and consider that we have a piece of copy one foot square, which is to be projected upon a ten-foot screen. By the same argument, the image on the screen is going to be one hundred times *less* bright than the illuminated copy.

"But," you say, not thinking, "this also applies to *lantern-slides* — the images projected from them must also be as much less bright than the illuminated slide as the images projected from them are larger than the originals."

Very true. But — and here is the crux of the matter — lantern-slides are illuminated with *direct* light, a lot of which is gathered from the artificial source by condensors, squeezed into a cone and thrown through the slide and into the projection-lens. Roughly speaking, ten per cent of the *total* light emitted in all directions from a ninety-degree arc reaches the condensors and is transmitted to the screen, with only the loss due to absorption and reflection from lens-surfaces. But if this ten per cent is thrown upon a card which, in turn, is to reflect it to a lens for opaque projection not one per cent of the reflected light, which, of course, is throughout a hemisphere of 180 degrees, reaches the projection-lens.

The problem of constructing a practical opaque projector, therefore, resolves itself into the provision of the most in-

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HOMEWARD BOUND F. L. WRIGHT

tense possible light, the greatest amount of this light thrown upon the card, and the largest possible f. value to the projection-lens.

The most intense artificial light practically possible is an electric arc of high amperage. The greatest amount which can be thrown upon a reflecting-surface big enough for projection-purposes is sent there with condensors so arranged as to provide a parallel beam of light. The greatest f. value projection-lens is to be found either in portrait-lenses, very high-grade modern anastigmats, or some of the older types of fast lenses without anastigmatic corrections. So much greater is the importance of brilliancy over definition in this work that even the foreign manufacturers, usually sticklers for all that is scientifically correct, are putting out lenses on opaque projection apparatus which are anything but truly corrected, but which have a high f. value (great illuminating-power).

To any one with a mind in his head it is obvious that these various factors —

LANDSCAPE F. J. BRUGUIÈRE

intense light, carefully-ground condensors, and fine projection-lens — cannot be purchased for $2.99, or given away free. Nor can they be purchased for ten or fifteen dollars. There is a vast number of what is called "postal-card projectors" being sold to-day, doubtless giving children a great deal of pleasure, but about as stimulating to modern projector trade for serious work as the earliest Kodak, marketed now for the first time, would be to those who know the modern Kodak line.

These cheap instruments make no attempt to use the condensor or the fast projection-lens. Two electric *bulbs*, not *arcs*, on each side of the copy, or two Welsbach mantles, tin reflectors, a place to put the card and a cheap piece of curved glass in front make up the outfit. Without condensors, nothing like one per cent of the light used gets to the picture without first being reflected from the tin; and of the light which does reach the card, not one per cent reaches the lens of small f. value (small because cheap), the rest being reflected at various angles within the instrument. Then, with an enlargement of ten diameters — which makes a postal-card appear on the screen a little over four feet long — the available one per cent of one per cent of light (one per cent is much too conservative an estimate, by the way) is further reduced by being spread over an area of screen one hundred times greater than the surface of the card which reflects it. When you think that this screen is

THE CLOSED DOOR W. AND G. PARRISH

reflecting light in all directions, and that but a tiny fraction of one per cent of this reflected light can be gathered up by any one pair of eyes (see diagrams), you can realize what an infinitesimal amount of the original light of the lamps ever gets to the visual organs of the spectator, and why it is that these so-called cheap projectors are so woefully inefficient.

Attempts to make these cheaper forms of apparatus do any serious work are bound to result in failure. Only the finest optical and light equipment will produce even fair results. But, although such equipments cost a good deal of money — the cheapest practical apparatus listing about seventy dollars — there is no reason why any one who possesses a good electric lantern cannot adapt it to opaque work for himself. If one has no arc-light available it is better to purchase the inexpensive apparatus and be satisfied with a small and poorly-illuminated circle than to go to the trouble and expense of constructing what will be, at best, without a powerful light-source, but a makeshift.

Given a projection-lantern, however, with arc and condensors and the opportunity to equip your opaque-projector-to-be with a projection-lens of great speed — a Darlot portrait-lens, for instance — any clever hand with tools should be able to make an angular box with a trap-door for the copy and fit it to the bed of his lantern.

WINTER ON A WINDING STREAM — JOHN CHISLETT

SIXTH AMERICAN PHOTOGRAPHIC SALON

It is necessary that the second element of the condensor, or the one further from the source of light, be removed in opaque projection, so that the beam of light formed consists practically of parallel rays. It is also necessary to provide a mirror set at an angle upon the edge of the projection-lens if anything written or printed is to be projected; because while top and bottom can be inverted in placing the copy, right and left cannot, as in the case of the lantern-slide. It therefore requires a second reversal (accomplished by reflection) to bring the copy-image to the screen in natural position. In pictures or diagrams this reversal of right and left does not much matter; but with anything written or printed it is necessary to re-reverse it or the print will read from right to left upon the screen.

In the construction of an opaque attachment for a lantern there is one very vital point which should be most carefully considered. The copy, of course, must be parallel to the plane of the diaphragm of the projection-lens. The angle which the copy forms with the parallel beam of light must be as small as it is possible to make it; in other words, the projection-lens should be as nearly parallel with the line of the condensors as is physically possible. Failure to provide for this will result in two things: the maximum per cent of the light from the condensors will not be used and a direct reflection of pure light-rays may take place from glossy copy, forming upon the screen an image not of the picture on the card, but of the light from the condensor. The same effect is seen when reading a magazine printed on glazed paper: if the page forms a true reflecting-angle with the light you do not see the print, but just a glare on the paper. It seems paradoxical that your efforts should be to get some other than a true reflecting-angle between light, copy and projection-lens, yet if you will consider a moment you will see why this is so. A picture on a glossy card has, optically, two — not one — surfaces. There is the surface of pigment forming the picture, which reflects various colors to your eye or the lens, and there is the gloss of the surface, which reflects all the colors which come to it from the source of light. What you want is to have only the first reflection reach the projection-lens; the second is detrimental.

It would be idle to give specific directions for the manufacture of an opaque attachment, since each lantern must be a law unto itself. The distance from the projection-lens to the plane of the copy, of course, must be the focal length of the lens, with a provision for focusing outward. The distance from condensor to center of copy should be approximately the same as the focal length of the lens, although, as the rays from the condensor are parallel, this is not essential. The rheostat should be capable of giving at least twenty-five amperes if a truly bright picture is expected; and because such light is accompanied with much heat, the box should be metal as far as the copy, anyway, and asbestos-lined wood from copy to projection-lens. A water or alum cell, introduced between condensor and copy, to remove heat is part of the equipment of a good opaque projector. It is important that the copy lie flat, since depth of definition is small with any lens with great f. value. To secure this make the opening to hold the picture to be projected smaller than the copy, forming a diaphragm which will hold it on all sides, and then have either a spring-actuated or other pressure-device upon the flap or door which holds the copy in place.

There is no question of the utility of the opaque projector in the lecture-hall, the home, school, lodge, church or scientific institute. Lectures can be arranged at a moment's notice. Postal-card views from all over the world are available everywhere. Illustrations from books, printed pages, diagrams, sketches, can be shown with no preparation or making of slides. In some elaborate forms of the apparatus physical experiments can be shown — the workings of small machinery, such as a watch; the effect of a magnet on iron filings; of vibrations upon a sand-plate, etc., etc. Opaque projection is not usurping the place of the projecting-lantern, nor can it do so. It has a distinct niche of its own.

XUM

In this respect the words of William H. Clarke, the organ expert, who experimented for years to produce a satisfactory opaque projector because colored lantern-slides were so costly and at times so poor, are interesting:

"The practical result of my many years of optical study of this subject may thus be summed up:

"The introduction of cheap dry-plate lantern-slides has reduced their cost to a minimum for the purchaser. In the continuation of my studies I experimented with transparent colors until I obtained a simple method of tinting these slides with hardly any expense, which any owner of lantern-slides can easily do with success. Any landscape or picture may thus be photographed into the size of the regular sized lantern-slide as a transparency which may be colored according to nature.

"This discovery of so simple a process of coloring pictures was a recompense for all the years spent in investigating the possibilities and impossibilities of the reflecting-camera [Mr. Clarke's name for opaque projector.—C. H. C.], because with the stereopticon, and with the same comparative degree of illumination, the effect is a hundred-fold more powerful than can be possible with the reflection of opaque pictures or objects, and the transparent colors are projected with proportionate power. This causes the modern stereopticon to be of more practical value for exhibitions for the masses of the public where there must be sufficient intensity to hold the attention."

It is further illuminating to this subject of lantern-slides vs. opaque projection to learn that when a combination-lantern is manufactured, which can change from opaque to transparent projectors, and *vice versa*, so that the lecturer can show first a postal-card, then a slide, then a book, then another slide, etc., *a dark screen of glass is provided to dim the projection of the lantern-slides so that the spectator shall not be affronted with too sudden changes in the relative brilliancy of the alternate opaque- and transparent-projected pictures!*

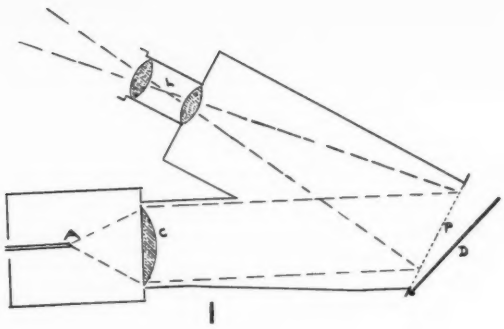
Opaque projection is not new. Mr. Clarke says that Professor Pepper used such an optical equipment in lectures in London in 1857, and that an American patent on such apparatus was issued in 1864. Yet it has been only recently, with the great improvement in lenses, condensors and knowledge, that a really practical opaque projector has been made; and now, it should be distinctly understood, it fills its own place and is not, and can never be, in the same class as regards brilliancy with the transparent projector. On the other hand, it projects in the original colors, with perfect accuracy, cards and pictures which are much more beautifully colored than any but the most elaborate and expensive lantern-slides can ever be.

As for the cheap tin toys which are flooding the market, there is no question that they, too, have their place as a home amusement for little ones, but they bear the same relation to the real thing that the toy magic lantern with its tiny colored views— six or twelve to a slide — and its oily, smelly burner bears to a modern dissolving stereopticon.

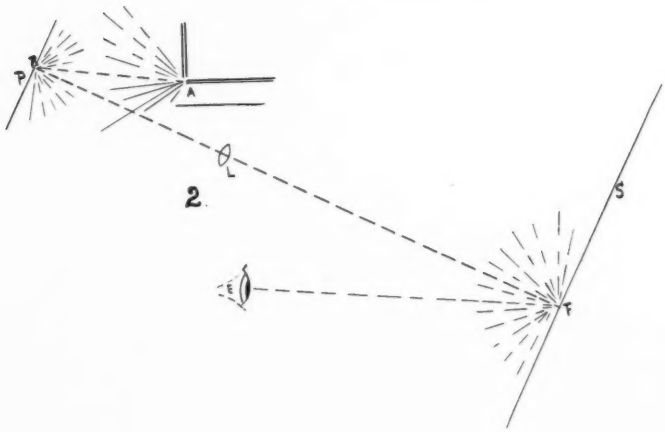
Explanation of Diagrams — Similar Letters Apply to Similar Things In All Three Diagrams

Fig. 1. Diagram of an opaque projector, simple form, after a Bausch and Lomb model, which, however, uses a double condensor and a more elaborate copy-holder. A, arc, from which light radiates to C, the condensor, which transmits it in a parallel beam to P, the postal-card or other copy, from which the light is reflected and gathered up by the projection-lens, L, and focused on the screen. The copy, P, is held in place with some sort of door or other holder diagrammatically represented here as D.

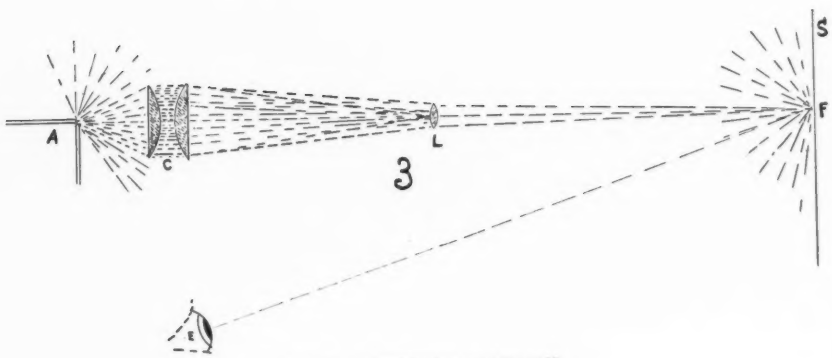
Fig. 2 illustrates the enormous loss of light which takes place in opaque projectors in general and those cheaper forms without condensors in particular. No consideration is had here of the enlargement of size of picture from postal to screen and loss of light consequent upon such magnification. A, arc, from which light radiates in all directions. One ray of the entire lot forming the theoretical sphere of light which radiates from a point im-



1



2



3

pinges on a certain spot on the copy, P, at the point F. This point, in turn, becomes a light-source by reflecting the ray it has received, in all directions. Some of these rays, the number depending on the diameter of f. value of the lens, L, are gathered up and projected in the form of an image on the screen, S. This, in turn, becomes a light-source by reflecting the light projected upon it, the light radiating in a theoretical hemisphere. Of these radiations a few, the number depending on the size of the pupil, enter any one spectator's eye. It is obvious that the greater the f. value of L, the more light will be thrown on S, and that a condensor interposed between A and P, as in Diagram 1, collects an enormous amount of light now going to waste in the theoretical sphere of light radiated from A, Fig. 2.

Fig. 3 shows diagrammatically an ordinary lantern-slide projection-apparatus, and should be contrasted with Fig. 2 to gain an idea of why reflected pictures can never be so bright as those projected from lantern-slides. A, arc, from which light is collected by condensors, C, and transmitted in a cone to projection lens, L. The cone is here represented as having a blunt point, and the light-rays from C to L are not drawn at true angles, because no condensors form a perfect cone of light on account of spherical aberration, although they usually are represented as doing so in diagrams. L projects the great volume of light collected by C to the screen S. At the point F, one of the whole image taken for individual consideration, the light is radiated in a theoretical hemisphere as in Fig. 2, and only as many rays from this point as can be contained in the diameter of the pupil of the eye can enter at E.

Compare carefully with Fig. 2, and note that of the three sources of radiation in 2 — A, R and F — only A and F appear in Fig. 3, and that A is enormously enlarged in scope by the condensor, C.

SUNLIGHT AND SHADOW WILLIAM E. MACNAUGHTAN
SIXTH AMERICAN PHOTOGRAPHIC SALON

With a Camera in Beautiful Bavaria

I. Nuremberg

WILFRED A. FRENCH, PH.D.

MY trip to Europe last summer was what the word implies, and not like one of those prolonged visits of former years. The object of my journey, this year, was the International Photographic Exposition, at Dresden. I, therefore, left New York August 10, on the new and magnificent steamer *Rotterdam*, than which a finer and more comfortable craft does not cross the ocean these days. The great ship behaved splendidly, and, as the weather was all that could be desired, everybody was on deck — or rather the *decks*, for three of them were allotted to the first-class passengers. Every seat in the dining-room was occupied, and all was merry and serene. The company at my table consisted mostly of musical people, and included several eminent singers *en route* to Bayreuth. The conversation turned frequently to the Wagner Festival, which was being held there this year, and to the probability that, on account of declining health and impending troubles, Frau Cosima Wagner would be obliged to relinquish her position as directing head of these famous musical productions. An ardent admirer of Wagner's music, yet never having visited Bayreuth, I was so impressed by what I heard that I was resolved to visit this Mecca of all true Wagnerites, even though tickets had to be secured four months in advance. But no time was to be lost, for the last performance of the season was to occur August 20, and the *Rotterdam* was not due to arrive at Rotterdam until the day before. But this sudden change in my itinerary necessitated curtailment of the journey by water; hence I disembarked at Boulogne and took the train for Cologne at Calais, departing thence at 1.15 A.M., August 19. There is some delightful scenery between Liège and Verviers, and of the sort that thrills every true camerist with delight. Whoever visits the Brussels Exposition next year should not fail to stop at Liège and from there go by train to Chaudfontaine — a beautifully-situated watering-place. It will repay him. As I was on a fast express train, I could not very well complain of the rapidity with which it traveled through the Rhine Valley, speeding, as it did, past quaint little towns, picturesque ruins and frowning castles, which embellish both sides of the Rhine from Cologne to Mayence. It was tantalizing to the camerist not to be able to level the camera, now and then, at some well-known, picturesque object which he was approaching and which, in many cases, can be photographed to better advantage from the train level than from the steamboat. At Ehrenbreitstein, however, as the train slackened its speed, I managed to obtain a successful snap-shot of "Wilhelmsecke" across the Rhine. There is not much to delight the eye of a lover of nature until Aschaffenburg is reached, where the train enters one of the most picturesque countries in the world — Bavaria.

As we sped through the Main Valley, numerous little hamlets greeted us from afar, as they lay reposing peacefully, on either side of the river Main, amid rich-tinted settings of meadow and field. The eye could linger but briefly on their simple beauty, nor was I in a position to train my camera on these veritable "motion-pictures." Soon after the sun had set, the train passed through a tunnel, and approached a wealth of domes and spires silhouetted against the evening sky. It was Würzburg. During the brief halt here I noted the general character of the surroundings, and came to the conclusion that Würzburg merited a place in my next photographic itinerary. It was now dark and the rest of the journey to Nuremberg was sightless. We entered the *Bahnhof* at 9.30 P.M. I required no urging to rise

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VIEW ON THE PEGNITZ, NUREMBERG

WILFRED A. FRENCH

early the next morning. Phœbus had mounted his radiant chariot and was coursing across the blue heavens. I issued forth, camera in hand, scarcely realizing that my train for Bayreuth left one hour later. I gazed at familiar objects with a critical eye, estimating the adaptability of light, distance and surroundings to my requirements. I secured but one picture — a view of the apse of the St. Sebaldus Church, balanced by a view of the famous oriel window opposite. I was winding up the film when I noticed a tourist excitedly call a cab, jump in and rapidly recede. Just then a clock overhead struck nine. In fifteen minutes my train was to leave! I looked frantically for a cab, but none was in sight. A policeman informed me that they were all in use, most of them on the way to the *Bahnhof*, if not already there. The electrics were too slow and ran at long intervals. My only recourse was to cover the distance on foot, and this I did with an energy that must have surprised those staid burghers. With the aid of the hotel-porter, who had been anxiously looking for me, I managed to procure a ticket and get into a compartment of *Zweite Klasse* — a few seconds before the train started. I resolved to be at the station at least fifteen minutes before train-time, hereafter. In America the thing is simple enough. You merely get aboard, it matters not which car; if it be not the right car, the change can be easily made, even if you desire to sit in a parlor-car. In Europe you look down an endless perspective of doors, which project outwards before the train starts. They bear Roman numerals which indicate the various classes — I, II and III. You make a dash for one, when, somehow, you discover that it is a compartment for women, or, if for men, reserved for non-smokers. If you do not smoke, then the chances are that the compartment you desire to enter is intended for smokers. Sometimes the traveler is in luck and succeeds in his first attempt. And when, at last, the right compartment is found, it happens, sometimes, that the seats are all taken, in which case the search is continued until a place has been secured. A woman encounters the same difficulties, only she has, obviously, a harder time of it. The newer cars are provided with a corridor along the side, and when this is crowded with passengers all frantically looking for *Erste Klasse*, *Zweite Klasse*, *Raucher*, *Nicht-Raucher*, the scene is bewildering, yet not without its humorous side. The conductor — not the *Zugführer* — does his utmost to help and advise; but when there are many, and all clamoring for seats, the poor man is often at his wits' end, and really excites one's sympathy. He mops his brow and, amid groans and sighs, waddles about, giving a helping hand wherever he can. Of course this confusion prevails only during the height of the season. When the rush is over and normal conditions again prevail, the tourist obtains accommodations with facility, not only on the railways, but at the hotels, restaurants and elsewhere. He has but to choose.

It was fully ten minutes before I dropped into a seat — a corner of the compartment near the *couloir*, with little opportunity to enjoy the passing landscape. By-and-by, however, I began to realize that I was taking a tremendous risk in journeying to Bayreuth without so much as an idea how a ticket to the last performance of the season was to be procured. The curtain was to rise at 4 P.M. on that very day. However, I resolved not to worry and to hope that Dame Fortune would come to my aid. And she did. I will not trouble my readers with a recital of the various schemes I tried in order to obtain the coveted bit of pasteboard, and how at last, *fifteen minutes* before Dr. Muck raised his baton, success crowned my efforts. To hear a Wagner opera amid conditions that are inspiring is a privilege alone worth a journey across the ocean; and when that work is "Parsifal," a sacred music-drama, or, as the composer has named it, a *Buhnenweihfestspiel* (stage-consecrating-festival play), those of my readers who are music-lovers and admirers of the modern school will appreciate the intense pleasure that was mine. While Bayreuth has many of the attractions that characterize old, mediæval towns, it does not appeal strongly to the camerist, unless

NUREMBERG SCENES — WILFRED A. FRENCH

From Left to Right: "Fruit-Market," "Weinstadel and Henkersteg," "Watching the Camerist," "A-Marketing," "Al Fresco Luncheon."

he be of a musical bent — and, in that case, he will try to obtain exposures of the places associated with Richard Wagner. I, therefore, considered the Villa Wahnfried, the home of the Wagner family. Its situation is idyllic, but not favorable to photography, unless the camerist be provided with a camera having either a swing-back or a rising lens-front. My 3¼ x 4¼ folding Weno fitted with a Voigtländer Collinear lens, though delightfully compact, had none of these features; hence in my souvenir-view of the famous structure the vertical lines converge slightly toward the top, which technical defect I had, however, fully anticipated. Wagner's grave was not accessible that morning, because Frau Wagner, now a woman broken in health and spirit, was seated grieving near the spot. I had noticed, however, several quaint camera-subjects in my hurried movements about the town; but I preferred to save my ammunition (films of special construction) for better material in Nuremberg and Rothenburg, later. August 21 I was at Dresden.

The beauty, variety and extent of the Photographic Exposition surpassed my highest expectations. Enough has appeared in these pages bearing on this interesting subject that I may be pardoned for slighting it, at this time. Nor will I devote much space to the consideration of the city itself, which, for sheer beauty and the number and importance of its attractions, is deservedly styled "the German Florence." Frequent visits had familiarized me with its salient features, yet I longed once more to revisit the famous picture-gallery and, particularly, the Royal Saxon Porcelain Manufactory in its new home — a village near Meissen, the *only* place where the genuine Royal Dresden china is made. I devoted myself, however, to the Photographic Exposition, held in a large palace with adjoining temporary buildings in the *Grosse Garten*, where I passed most of my time for a period of seven days. Towards the end of my sojourn in the Saxon capital the weather was dark and rainy, making it difficult to enjoy the pictorial sections. No artificial illumination was provided, which apparent omission was not regretted by visiting experts, as it is a well-known fact that photographic prints are seen to the best advantage by strong daylight. At such times I was profitably occupied in the industrial and scientific sections. For an occasional change I would sit in one of the open-air restaurants and listen to the music of the excellent military band which played there every afternoon and evening while the Exposition was in progress — May 1 to October 30. Although not in a picture-taking mood, I made several exposures of interiors, merely as souvenirs. One of these was a view of the American amateur section, showing a group of prints by the Photo-Pictorialists of Buffalo, which is reproduced elsewhere in this issue. The permit issued for this purpose by Secretary Karl Weiss contained no restrictions whatever, so that I could have copied freely any picture, or series of pictures, in the Exposition. The pictures of the Photo-Secession were splendidly lighted and there was nothing to prevent me from committing an act of piracy, had I been so tempted.

The day before my departure from Dresden I made a brief visit to Berlin, where I called on my old friend Herr Rudolf Dührkoop, and inspected the spacious and magnificently-appointed studio of Nicola Perscheid. As each of these artists has formed the subject of an illustrated article in PHOTO-ERA (see issues of June, 1909, and November, 1908), it is needless to rehearse here their respective merits. Berlin, which, in commercial activity and nervous energy, resembles New York more than any other metropolis, again impressed me with its clean streets, its exemplary traffic-regulations and, particularly, its excellent street-car service. The "public-be-damned" policy of the American monopolists does not prevail here; *the people are accommodated*. For example: in Berlin every trolley-car carries on the front, overhead, a circular ground-glass sign, about two feet in diameter, electrically illuminated, and displaying a large, black numeral which designates a certain route. These signs are plainly visible a long way off, day or night. We

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DER HENKERSTEG, NUREMBERG

WILFRED A. FRENCH

could have this great convenience in America, but —. In Boston all the trolley-cars look alike, and it is almost impossible to distinguish one from the other, unless one is peculiarly gifted.

The air was filled with the aërial exploits of Count Zeppelin. The epidemic had seized upon everybody and everything. The tide was irresistible. I, too, succumbed, particularly at the news that the Zeppelin III had left Berlin and was, on its return flight, to soar over Nuremberg — the city I was just intending to visit. I left Dresden Saturday morning, August 28, and reached Nuremberg twelve hours later. The local newspapers issued bulletins which were posted throughout the city and the principal hotels: "Zeppelin III has met with a mishap and its arrival at Nuremberg will be delayed several days." Glad that the excitement had subsided somewhat, I sallied forth on a photographic prospecting-tour, the camera being replaced by a pocket-compass, note-book — and umbrella, for a light rain had set in, and continued for the rest of my stay. At several intervals during that time the sun coquetted with the camerist, who, after a severe struggle, succeeded in capturing six prizes. The men on the spot — the local photographers — always have an advantage over the transient competitor; but the latter, often possessed of an amount of skill, experience and determination not to be despised, has also been known to come off triumphant. Niagara Falls and the Yosemite Valley, well-known pictorial localities in the United States, are notable examples of this statement. Was this true also of Nuremberg during my brief visit? It is not for me to say.

The river Pegnitz, flowing through the town and divided, in several places, by small islands into two narrow streams, affords the finest pictorial material in this picturesque mediæval burg. Right and left the houses rise abruptly out of the water, producing delightful perspectives, and, in this respect, remind the visitor of Venice and Amsterdam. There are numerous bridges across the Pegnitz, from which, as well as from many other points of vantage, the camerist may obtain delightful pictures. Of course, I had marked the Henkersteg (Hangman's Bridge), appropriately styled "The Bridge of Sighs," as the object of my particular consideration. I had planned to photograph it at such and such a time, but I had to reckon with my host — the rain. I succeeded only in part. At five o'clock one afternoon the sun blazed forth quite unexpectedly. I hurried at once to the *Max-Brücke* and to the point previously selected. On the way thither King Sol began to make merry with me; but just before he had completely hidden his face I squeezed the bulb. Flushed with success, I now coveted the opportunity to capture a view of this scene from a greater elevation, so as to include the entire building of the *Weinstadel*, at the left, with watch-towers and church-spires rising in the distance. The propitious moment arrived at two o'clock the following day. With the assurance of "Nervy Nat," I gained admission to the dwelling which provided the viewpoint I had chosen. The two lower floors consisted of offices; and those above, of apartments. I politely laid my case before the proprietor of the suite on the third floor — a wealthy manufacturer, and hospitable to a fault. He generously offered me the use of the room I had indicated and, thus, matters proceeded finely. In a few moments, however, the fickle sun ceased to smile and gloom settled upon the scene; but my host assured me that this obscurity was only temporary, and induced me to remain. The heavy clouds, at last, began to disappear and, at three o'clock, the illumination was such that I was able to secure the picture. But I must not omit to mention the picture which I secured earlier in the day, before the fog had lifted, and which repaid me well after numerous unsuccessful visits. It is a view of the Synagogue taken from a point little frequented by tourists — the western extremity of the Island Schütt. As the city slopes gently upwards from either side of the Pegnitz, numerous important views may be taken with any good box-camera or with a folding outfit not provided with a rising lens-front. Nevertheless, for gen-

eral use, a camera the lens-front of which can be raised for either upright or horizontal views is well-nigh indispensable. Had this not been a hurried trip, I should certainly have taken with me a camera of this improved type. I therefore found my four-foot extension-tripod very useful, particularly in Rothenburg above the Tauber, which interesting city was next in my itinerary and will form the subject of an illustrated article in the February PHOTO-ERA. Anticipating a rich pictorial harvest in the city of the famous draught, I deemed it best to lay in an extra supply of films. Although I visited every place where that commodity was for sale, I was entirely unsuccessful. The dealers carried only the standard size, in different makes of film, viz., cartridges having one and one-quarter inch flanges, but none with one-inch flanges — the kind that fitted my camera and which were no longer in demand. I was disappointed, but not dismayed.

The vicissitudes of the Zeppelin airship continued to be the chief topic of conversation, everywhere. On the day set for my departure for Nuremberg press-bulletins were issued which stated that the huge aërial craft was leaving Bittenfeld, but that its course over Nuremberg was seriously in doubt. Moreover, as the weather was now clearing and promised well for photography in Rothenburg, I came to a definite conclusion and left Nuremberg August 31.

A SOUVENIR OF NUREMBERG WILFRED A. FRENCH

XUM

EDITORIAL

Improving Photo-Era

THE current issue of PHOTO-ERA presents several new, practical features which, no doubt, will commend themselves to its many friends. For a long time, with occasional exceptions, the front cover of the magazine has borne a design drawn by hand, which, henceforth, will be replaced by plates from original photographs. This idea accords fully with the character of a publication devoted to the art and science of photography. Of more importance, however, is the arrangement of the letterpress. During the past six years the reading-matter in the body of the magazine has been set up in large type, and in single column extending across the page. This style of typography has been found to be less favorable to the reading eye than the double-column arrangement which PHOTO-ERA adopted in its initial issue, twelve years ago, but discontinued in 1904. The restoration of this typographical feature will be welcomed by all, as it has another advantage, in that the amount of reading-matter is increased — a result approved by our readers, provided, of course, that there shall be no impairment in the quality of the text. It certainly shall be our aim to guard against such a contingency. The discontinuance of the department devoted to Photographic Patents will also be regarded a wise course. The majority of our readers are not interested in photographic inventions, which, however important and interesting they may be, rarely reach the practical stage. They indicate a healthy activity in the technical phase of the art and a means of pecuniary enrichment for enterprising patent-solicitors; that is all. Our adoption of the patent department was due to the suggestions of several warm friends of this magazine, although the regular consideration of this subject is an original feature of our distinguished cotemporary *The British Journal of Photography*, which treats this specialty with exemplary thoroughness and perspicuity. The space which that department has hitherto occupied in PHOTO-ERA will be replaced by technical matters and items of general interest. More space will be devoted to matter which is particularly adapted to the needs of beginners, while the more advanced worker will find a greater number of items descriptive of foreign progress and investigation. Practical value will always be the only criterion by which every article submitted for publication in PHOTO-ERA will be judged. In spite of these changes in the general appearance of PHOTO-ERA — which we hope will be accepted as real improvements — we shall gladly welcome any friendly and feasible suggestions for the increased betterment of our publication.

Our Salon Illustrations

WE realize, as well as any one, that the illustrations which accompany President Stevens's article on the Sixth American Salon in this issue are far from satisfactory. They do not measure up to our standard. The fault is entirely our own, inasmuch as we had the cuts made in Toledo, in order to save time. The experiment has proved obviously unsuccessful. In the future we shall try to have the plates made from original prints by our own half-tone engravers, artists in their line, who, however, are to be credited with the following plates: "A Winter's Night," on the front cover, by John F. Jones; "Sunlight and Shadow," by William E. Macnaughtan; "The Swing," by C. Yarnall Abbott, and all the Round Robin Guild and Nuremberg plates.

We hope to publish another article, perhaps two, on the Sixth American Salon. In that case the accompanying half-tone plates will be made, as usual, by our own engravers.

THE CRUCIBLE

A MONTHLY DIGEST OF FACTS FOR PRACTICAL WORKERS

With Reviews of Foreign Progress and Investigation

Conducted by PHIL M. RILEY

Readers are encouraged to contribute their favorite methods for publication in this department Address all such communications to Phil M. Riley, 383 Boylston Street, Boston

Correct Orthochromatic Light-Filters

In recent issues of the *Wiener Mitteilungen* Baron von Hübl describes the preparation and merits of light-filters of different intensities, particularly in respect to their adjustment to the color-sensitiveness of certain plates. Much of the discussion would not prove interesting to the average reader, but a few paragraphs seem to point out the way to one not familiar with the theory of filters:

"A great deal has been said and written on the choice of the yellow light-filter for use with orthochromatic plates. Usually the worker goes by his experience and uses constantly the same light-filter, or considers only the character of the subject or the color-sensitiveness of the plate in using filters of different degrees of color. It is by no means easy to recognize whether the filter corresponds to the conditions of correct reproduction of the luminosities of colored objects. Although we plainly realize the varying brightness of colors, we are scarcely able to judge of these differences in a quantitative manner. We can say that yellow light appears brighter than blue, but it is more difficult to distinguish between red and green in this respect, and the task of selecting from a series of gray papers the one which corresponds in brightness to a certain color is one of no little difficulty. Attempts have, therefore, been made on a theoretical basis to provide specifications for yellow light-filters best corresponding with the requirements of orthochromatic photography; that is to say, reproducing the colors of an original in correct photographic tones. Such a filter, which, to use a phrase of Pichier, may be called a 'tone-correct' filter, must obviously be adjusted to the color-sensitiveness of a particular plate, but may be equally applicable for use with originals of any kind — paintings, portraits or landscapes.

"Whether the modification of the colors with a 'tone-correct' filter is best in all cases where colored objects are to be photographed is a question which is not easily decided. In the reproduction of paintings it may be said that the unanimous opinion is in favor of such a filter, but, when we come to landscape, opinions are almost equally divided. In this case we must give way a good deal to the judgment of amateur workers whose aims are at pictorialism; and, therefore, Paul Pichier, who has very carefully followed this branch of photography, may be taken as an authority on applied orthochromatism. He regards the use of a 'tone-correct' filter as absolutely necessary in landscape work, since such a filter alone affords the possibility of recording the actual effect of nature on the plate.

"The 'tone-correct' filter is lighter than the yellow screen most usually employed, corresponding to the Voigtländer contrast-filter a. It should, therefore, reduce any untrue and unpleasing characteristics of landscape pictures which occur as a result of too dark a yellow screen. The over-corrected lead-gray sky made with such filters, in which occur large masses of cloud wanting in detail, or the almost snow-white foliage which is seen in photographs, are even more untrue than the representations made on an ordinary plate. Generally a 'tone-correct' filter answers to the requirements of landscape photography; in certain cases, however, it is still necessary to use filters of other intensity. Among such cases may be named first the reproduction of certain paintings. The pure colors on a gray ground have a relatively brighter effect than blackish tones, since a certain indefinable quality, a characteristic richness, increase their luminosity, and the cinnabar-red of firelight in a painting representing a night scene is so luminous that it will be reproduced actually brighter than the cinnabar itself. Then it often happens in a painting that the color-scheme exists only as color. The objects in close proximity may be formed of colors of almost equal luminosity, so that reproduction with a 'tone-correct' filter leads only to confusion. Paintings possessing these features are difficult to reproduce, and require the aid of abnormal filters. Similar conditions are met with in the case of natural landscapes. Dr. Kleintjes has given an instance of this. In the case of a landscape photograph in which there is much clear blue sky and only comparatively little green foliage the sky should be at least as bright as the foliage. It must, perhaps, be reproduced somewhat darker; whilst the same sky, if it occurs only in a corner of a picture in which the masses of foliage are predominant, is to be represented as much brighter than these latter. And, as in this case it almost always happens that the suitable representation of the sky is an important point in the use of the different filters, the whitish-blue sky of a landscape containing much green should be represented as a bright gray tone, for which purpose a fairly dark yellow screen is necessary. If we were to use this filter also in the case of mountain scenery the deep blue sky would ap-

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pear dark gray in the photograph against the snow and rocks, and not at all corresponding to our visual conception of its luminous blue. Apart from such cases, however, the rules for the translation of colors into tones of gray are quite definite, and photography has all to gain by taking account of the use of such 'tone-correct' filters. At times it is advisable to depart from these rules, and in these cases the strictness of the scientific rule needs to be relaxed."

A Handy Dark-Room Lamp

WE illustrate herewith an exceedingly simple and practical dark-room lamp to be used where electric current is available.

Procure an ordinary two-quart glass fruit-jar, break out the procelain lining in the cover and cut a hole through the cover just large enough to fit over the socket of an incandescent electric lamp; then solder cover and socket together. Line the inside of the jar with two thicknesses of good orange post-office paper. The best lamp for the purpose is an eight-candle-power show-case lamp, the same as shown in the illustration. Screw the lamp into the socket and screw the cover onto the jar, and you have a safe light of excellent illuminating-power.

When you desire to work by white light two turns will remove the jar. If developing-papers are being worked, obtain a second jar and line with light orange paper, screw into the cover fastened to the lamp and you have a safe and pleasant light for loading and development. By attaching sufficient cord to the lamp it can be moved to any part of the dark-room necessary and you have three lamps at a trifling cost.—*Studio Light.*

Washing Films

WHEN films are washed in a receptacle provided with running water the current of the inward flow sets the films in motion and there is danger that the sharp angles at the ends of the films will dig small triangular pieces of gelatine out of other films in the dish. These defects are unnecessary and very difficult to spot out. It is a good plan, after fixation is complete, to cut off these angles with scissors to the form of a quarter-circle. With this precaution and the use of an acid-hypo fixing-bath there is little danger of defects from this cause. In winter the acid-hypo bath is not so important, because solutions are easily kept cool; but in summer, when it is difficult to keep the temperature down to 65° F., alum and acid in the fixing-bath are important to harden the film, thus counteracting the effect of high temperature and its consequent troubles. The baths recommended for gaslight papers are excellent for plates and films, and it makes things the simpler to have one formula for all.

Color-Photography on Paper

REFERENCE was made last month to the decline in popularity of color-photography after the first enthusiasm. The plates are more uniform today than hitherto, cost half as much and give little inconvenience in development by the "Simplified" method. All these facts are certain to make the Autochrome plate more popular. It never can become generally so, however, until it is possible to reproduce the transparencies on paper. Although the same brilliancy and depth can never be expected by reflected light, the average person does not accustom himself to the enjoyment of a transparency.

Many investigators are interested in the reproduction of screen-plate transparencies on paper, and most of them have looked for a solution of the problem through the bleach-out process. At first thought it would seem to furnish an easy means. In theory it does, but in practice the results are not uniform, and the problem presents so many unknown elements that an early solution is not to be expected.

The principle of the bleach-out process depends upon the fact that certain dyes possess the property of bleaching completely as a result of the action of light, but hold their color if protected by a transparent screen of like color. For instance, a blue will bleach out completely under a red or green screen, but will hold its color under a blue screen. When dyes representing the three fundamental colors are distributed on the same support and exposed to light under a color-transparency they bleach out according to the principle just stated, giving a positive in colors from a positive in colors. The difficulties result from the very nature of the dyes. They must be isolated from each other to prevent mutual action, and thus far it has been impossible to find a sensitizer or mixture of sensitizers which will yield uniform bleach-out action for all three colors. For instance, the sensitizer best suited to blue gives only poor results with red, while one for red is a desensitizer for blue. This is because of the fact that some dyes are very fugitive, while others are very permanent.

Of the many bright minds engaged upon this problem, none has been more enthusiastic than Dr. Smith, of Zurich, who is well known for his Uto paper. The future may bring forth a practical bleach-out process, and it is to be hoped that it will, as it means much for the popularity of color-photography.

THE ROUND ROBIN GUILD

An Association of Amateur Photographers

Conducted by ELIZABETH FLINT WADE

This association, conducted under the auspices of PHOTO-ERA, and of which PHOTO-ERA is the official organ, is intended primarily for the benefit of beginners in photography, although advanced camerists are just as welcome and many are numbered among its members. The aim of the association is to assist photographers by giving them information, advice and criticism in the Guild pages of PHOTO-ERA and by personal correspondence. Membership is free and may be obtained by sending name and address to PHOTO-ERA, The Round Robin Guild, 383 Boylston Street, Boston. Send a stamp for complete prospectus.

Unclaimed Pictures

PICTURES returned to Mr. Alfred Holcombe, Southampton, Mass., and to Frank Loveland, Meadville, Penn., were unclaimed, although the letters sent to these addresses have not been returned. Will these two members kindly send stamps to the editor of the Guild, with their correct addresses, and pictures will be forwarded at once.

Intensifying Negatives

THE intensification of a negative means a process of treatment which increases the density of the film in order to obtain stronger contrasts between the lights and shadows in the finished print. If a print is made from a thin negative the light reaching the paper quickly gives a uniform color, and also, when toned, the print is of an unpleasing color, owing to the fact that the light did not have sufficient time to act on the paper to give depth and richness to the print.

There are a great many formulæ for intensifying negatives. The most common one is the bleaching of the image with mercuric chloride and then blackening it in ammonia. This intensifier is specially good to use with a negative which has been correctly exposed but under-developed. It is prepared in two solutions — the bichloride solution for the first bath and the ammonia solution for the second bath. The proportions are as follows:

Bleaching-Solution

Water	16 ounces
Muriatic acid	20 minims
Mercury bichloride	1½ ounces

Blackening-Solution

Water	10 ounces
Strong ammonia	2 drams

Dissolve the chemicals in the bleaching-solution in the order given, taking care that each is thoroughly dissolved before adding the next. The plate to be intensified is first washed for a few minutes, then placed for ten or fifteen minutes in a ten per cent solution of alum-water. Place the negative in a developing-tray film upward and flow with the mercury solution, keeping the tray in motion as during development. Presently the image will begin to appear as a positive and, when the image is thoroughly whitened, remove it from the tray and wash for three or four minutes in running water; then place it film side up in a clean tray and cover it with the ammonia solution. The action of the ammonia changes the image back again to a negative, and deepens its density. In case the image is not dense enough the operation may be repeated.

Instead of the ammonia one may use Schlippe's salts for the blackening-solution. The proportions are fifteen grains of the salts to each ounce of water. In this solution the image turns to a warm black with excellent printing-qualities. As a further aid to good printing the negative may be soaked for a few minutes in a bath made of chrome yellow moist-color paint dissolved in water. This will tinge the film slightly and greatly enhance the richness of the print.

Lumière, of color-photography fame, recommends mercuric iodide for an intensifier. His special formula is as follows:

Water	10 ounces
Mercury iodide	45 grains
Sodium sulphite, anhydrous	440 "

Soak the plate for a few minutes until the film is wet, then immerse in the solution and rock the tray, observing closely the action of the intensifier. As soon as the plate has reached the proper stage remove from the tray, wash well and then place in a tray and flood with a ten per cent solution of sodium sulphite. If the plate is washed too long after being intensified the film will assume a greenish tinge. In place of the sodium sulphite the plate may be soaked for a few minutes after intensification in an alkaline developer of normal strength.

Sodium sulphite may be used in place of the ammonia or of the Schlippe's salts for blackening the image from the mercury bichloride intensifier. Dissolve an ounce of sodium sulphite in five ounces of water and, after rinsing the plate well from the mercuric chloride solution, place it in the tray containing the sodium sulphite and leave until the image has turned from white to black.

Uranium is a chemical which is used with much success in different processes of photography. Its use as an intensifier has been tested

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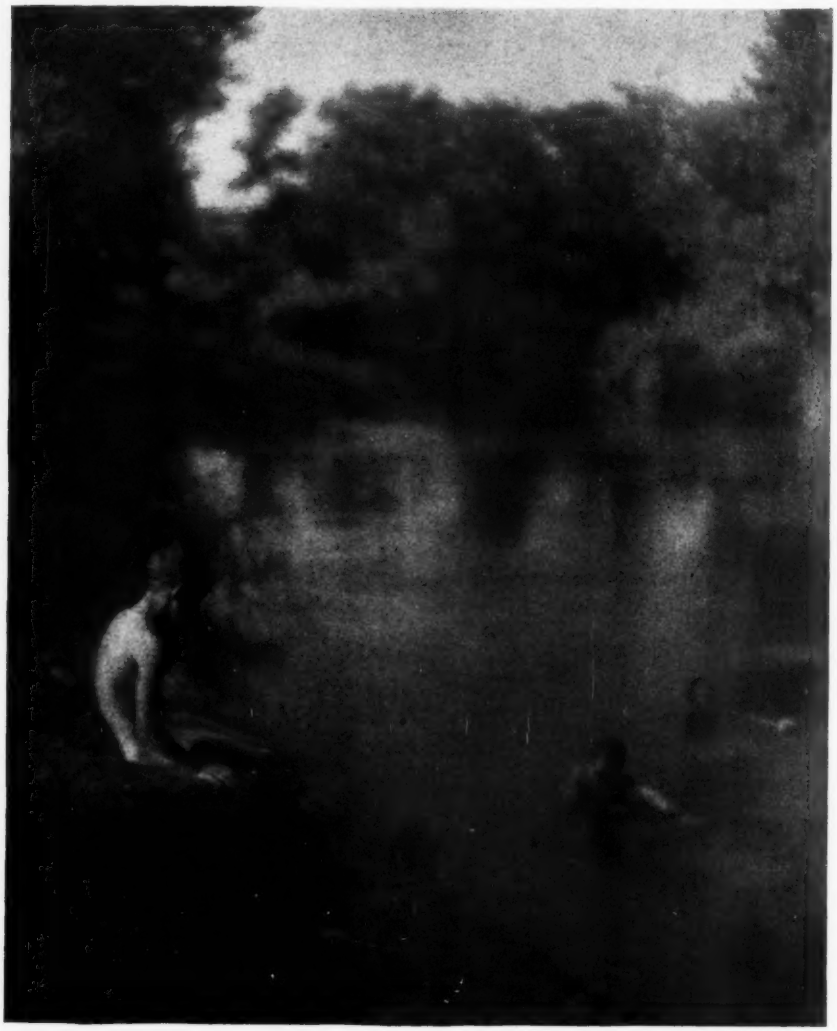

BOYS SWIMMING
PAUL LEWIS ANDERSON
FIRST PRIZE — GENERAL COMPETITION

thoroughly and found very satisfactory. It may be made up in one solution ready for use, or it may be prepared in two separate solutions which are to be mixed together when needed.

The plate to be intensified with uranium must be thoroughly free from hypo, as if any traces of this chemical are left in the film the intensifying will not be a success. The solution for immediate use consists of:

Glacial acetic acid	½	ounce
Uranium nitrate	100	grains
Potassium ferricyanide	100	"
Water	10	ounces

The plate is placed film side up in a tray and covered with the solution. In a moment or two the image turns to a much warmer black, then to a brownish tone. The process must be watched carefully and the plate removed from the solution as soon as the proper density is reached. If the film contains any hypo the result will be what is called a "red fog." If such a state occurs, the plate must be removed at once from the intensifier and thoroughly washed. After the plate is dense enough rinse in an acid bath made of one dram of acetic acid to a pint of water. Leave the plate in this bath for five minutes, rinse well and dry. The color of the film is a reddish brown and seems to be specially helpful in the making of prints of beautiful tones.

If one wishes to make stock-solutions for use when needed the two here given will keep indefinitely if tightly corked.

Solution 1

Glacial acetic acid	3	drams
Uranium nitrate	120	grains
Water	12	ounces

Solution 2

Glacial acetic acid	1½	drams
Potassium ferricyanide	150	grains
Water	12	ounces

To use, mix in equal quantities.

Silver nitrate is often used for intensifying and is the most flexible of intensifiers, being easily controlled and modified. Make up a stock solution of:

Ammonium sulphocyanide	3	ounces
Silver nitrate	60	grains
Sodium hyposulphite	150	"
Potassium bromide	18	"
Water	6	ounces

To use, take for every ounce of water one dram of the stock solution and one-third dram of rodinal developer. After the negative is intensified fix in a hypo bath made up of one ounce of hypo to eight ounces of water.

This method of intensification is very satisfactory for an under-developed negative and brings out detail and gives good contrasts. Intensification is often used with negatives which make good contact-prints for their use in making enlargements, the intensification strengthening the detail and making the negative specially effective for a plucky enlargement.

The Round Robin Guild Monthly Competitions

Closing the last day of every month.

Address all prints for competition to PHOTO-ERA, *The Round Robin Guild Competition, 383 Boylston Street, Boston.*

Prizes

First Prize: Value $10.00.

Second Prize: Value $5.00.

Third Prize: Value $2.50.

Honorable Mention: Those whose work is deemed worthy of reproduction with the prize-winning pictures, or in later issues, will be given Honorable Mention.

Prizes may be chosen by the winner, and will be awarded in books, magazines, enlargements, mounts, photographic materials or any article of a photographic or art nature which can be bought for the amount of the prize won.

Rules

1. These competitions are free and open to all photographers, whether or not subscribers to PHOTO-ERA.

2. As many prints as desired, in any medium except blue-print, may be entered, but they must represent the unaided work of the competitor, and must be artistically mounted.

3. The right is reserved to withhold from the competitions all prints not up to the PHOTO-ERA standard.

4. *A package of prints will not be considered eligible unless accompanied by return postage at the rate of one cent for each two ounces or fraction.*

5. *Each print entered must bear the maker's name, address, Guild number, the title of the picture and the name of the competition for which it is intended, and should be accompanied by a letter, sent separately, giving full particulars of date, light, plate or film, stop, exposure, developer and printing-process.*

6. Prints receiving prizes or Honorable Mention become the property of PHOTO-ERA. If suitable, they will be reproduced, full credit in each case being given to the maker.

Subjects for Competition

December — "Self-Portraits." Closes January 31.

1910

January — "My Favorite Photograph." Closes February 28.

February — "Decorative Treatment of Trees." Closes March 31.

March — "The Seasons." Closes April 30.

April — "Downhill Perspective." Closes May 31.

May — "Sunlight and Shadow." Closes June 30.

June — "Landscapes with Figures." Closes July 31.

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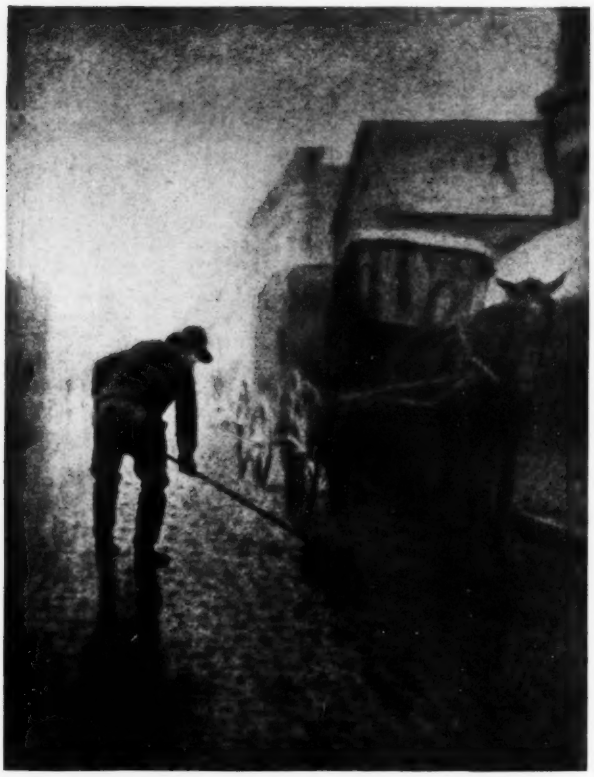

THIRD
PRIZE
GENERAL
COMPETITION

"If each before his own door swept,
The village would be clean"

PAUL WIERUM

Awards — General

First Prize: Paul Lewis Anderson.
Second Prize: Richard Pertuch.
Third Prize: Paul Wierum.
Honorable Mention: R. S. Kauffman, Malcolm D. Miller, M.D., T. L. Mead, Jr., Emil Deibel, Sinsaburo Niwa, Louis Fleckenstein, T. W. Kilmer, M.D., Lewis P. Craig, G. Harrison Truman, E. W. Gibson, J. Ericsson Harvey, George Scherr, Walter J. McFeat, Anna C. Ray, Harry C. Gibson and J. P. Polk.

Meritorious work was submitted by A. B. Hargatt, F. E. Bronson, Chester M. Whitney, Harry G. Phister, F. F. Sornberger, C. W. Christiansen, Claude Davis Millar, Otto Koch, Claude B. Vail, L. M. Reightmyer, John J. Reilly, E. R. Bolander, Robert M. Storms, Armand Tibbitts, George H. Seip, Mrs. Alice F. Foster, W. S. McCleary, W. L. Crouch, Miss C. M. Green, Clara Jacobson, W. C. Hodges, B. V. Constantinov, E. M. Child, Ernest P. Seabrook, John J. Wing and Bankson C. Wall.

The Forthcoming Competition

To "My Favorite Photograph" competition, closing February 28, the amateur is asked to send the one product of his own genius that pleases him best. Only one may be entered. This does not mean that the picture must be his best as far as technique and artistic merit are concerned. The late Henry P. Robinson, who did so much for the advancement of photography, was in the habit of saying, "Live with a picture half a year; and if at the end of that time you are still pleased with it, then it is probably all right."

Perhaps it may be hard to select one's favorite photograph. There may be several with equal claims for a preference. In such a case the choice

AN AUTUMN MORN — RICHARD PERTUCH

SECOND PRIZE — GENERAL COMPETITION

must be made by the law of exclusion until the one picture remains which has stood the test of elimination. In sending your "favorite photograph" please state in your letter of data the reasons why it is your favorite photograph.

One's "favorite photograph" deserves as good a mounting as one can devise.

BEGINNER'S COLUMN

Quarterly Contests for Beginners

In these contests all Guild members are eligible EXCEPT *those who have received Guild prizes in the past. Aside from this restriction, the rules which govern the monthly competitions will be in force here and the prizes will be payable in the same manner.*

All prints submitted, except prize-winners, will be returned if postage is sent.

PRIZES

First Prize: Value $10.00.
Second Prize: Value $5.00
Third Prize: Value $2.50.
Honorable Mention: Those whose work is worthy will be given Honorable Mention.

Subjects for Competition

HOME-SCENES — CLOSES JAN. 15, 1910

This is a favorite subject of many workers at that season of the year, particularly those who do not enjoy winter-work outdoors. In the contest, however, are included scenes outdoors as well as within, and in summer as well as winter. The essential feature about them all must be that they portray familiar home-scenes with figures. Portraits may be entered, provided enough of the surroundings is in evidence for one familiar with the scene to recognize it.

SNOW-PICTURES — CLOSES APRIL 15, 1910

Here is presented a very wide field, so that nearly every camerist may enter one print, at least. The pictures may be snow-covered landscapes in all conditions of weather, park-scenes, outdoor sports on the snow or ice and a variety of other subjects, including human life or not.

SOUVENIR-PHOTOGRAPHS — CLOSES JULY 15, 1910

It is intended that this competition shall include photographs made as souvenirs while away from home, whether in one's own country or abroad, or only on a short vacation-trip. Thus they will portray objects of historic or other interest, and incidents worthy to be recorded. Figures may or may not be included.

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Intensifying Prints

PRINTS as well as negatives may be intensified if, through failure in printing or after-treatment, the image is not strong enough. Faint prints on either bromide or gaslight papers may be brought up into strong prints by a treatment similar to the intensification of a plate.

The print is first bleached in a mercury solution, using:

Mercuric chloride	10	grains
Ammonium chloride	20	"
Water	8	ounces

It is then transferred to a tray containing a solution made of sodium sulphite in the proportion of fifty grains to every ounce of water. This blackens the image and the result is a strong print. The action of the solution affects the color of the print and it becomes a warmish black, a brown, or sometimes it assumes a reddish tone, but the color is never unpleasing. The ammonia bath, such as recommended for negatives, may be used and gives a warm-colored image, but in time it seems to have a deleterious effect on the print, which fades or turns an unpleasant color.

A process of intensification with copper sulphate makes a print of good contrasts and helps to increase the detail in the shadows. This is commended for use with gaslight prints:

Copper sulphate	100	grains
Potassium bromide	100	"
Water	10	ounces

After bleaching in this solution wash for at least five minutes in running water or in several changes of water, then re-develop with a solution made of one-third of a dram of a ten per cent solution of silver nitrate to each ounce of water. This after-treatment is for prints that have been under-developed. If a print is gray and weak from over-exposure, bleach first in the copper sulphate solution, then re-develop in a solution made of rodinal developer, using one-third of a dram of rodinal to every ounce of water.

One should strive to make prints that do not need any after-treatment save spotting and mounting. To do this one should separate the negatives from which gaslight prints are to be made into three classes; viz., thin negatives, negatives of approximately correct density and dense negatives. Then after making two or three trial prints from each class one will be able to gauge the time for a correct exposure. When the time for printing a gaslight picture has been ascertained it is a very wise idea to mark the time on the envelope which contains the negative. Then one always has a sure guide for further printing.

Platinum prints which have been under-exposed and to which the development gives flat tones with no contrast should never be thrown away. They should be intensified either with uranium, which gives to the print a warm brown color, or they may be intensified with silver, which does not affect the color. A good uranium intensifier for platinum prints is made of:

Uranium nitrate	12	grains
Potassium ferricyanide	12	"
Glacial acetic acid	6	drams
Sodium sulphite	12	grains
Water	10	ounces

Place the print in the bath and keep it moving until the image is intense enough, then rinse well and dry. Do not put more than one or two prints in the intensifier at a time, as if more are put in they intensify unevenly. Prints intensified with uranium range in tone from warm black to sepias and to a tone resembling sienna red. The intensification process is often resorted to in order to change the tone of a black and white platinum to a tone which will be better fitted for the subject.

Silver intensification does not affect the color of the print and hence is suited for prints which are to be kept in black and white. Make up a solution of:

Ferrous sulphate	50	grains
Acetic acid	400	drops
Water	10	ounces

Immerse the print in this solution and let it remain for a minute or two, or until thoroughly wet. Then drain off the liquid into a graduate and for each ounce add three drops of a ten per cent solution of silver nitrate, and turn the solution over the print. If the image is not strong enough drain off the liquid again and add the same quantity of the silver nitrate as before. Any print intensified with silver is practically permanent.

After intensifying a print with uranium it should be first washed in a bath containing a little acetic acid. The acid bath prevents the changing of the color of the print in the after-washing.

Carbon prints may also be intensified; for though as a rule one seldom errs on the side of under-exposure in making carbon prints, yet it sometimes will happen — and carbons are not only expensive, but some little trouble to make, so one does not wish to lose a print.

Carbon prints intensify quickly by the action of potassium permanganate. Dissolve one-third of an ounce of potash permanganate in eight ounces of water. Dip the print in this solution, letting the liquid thoroughly wet the surface, then drain and wash well and dry. If the image is not intense enough repeat the process. A print may have to be dipped in the solution three or four different times. It should be well dried between each action of the chemical.

Wanted — A Wide-Angle Lens

LADY.— I would like you to paint my portrait with my hat on.

PAINTER.— Good gracious, madam, you'll have to go to a landscape painter for that.—*Meggendorfer Blätter.*

A FEW HONORABLE MENTION PRINTS — GENERAL COMPETITION

From Left to Right: "On the Banks of the Neponset," J. Ericsson Harvey; "Palmer Lake," Harry C. Gibson; "Sunshine and Shadow," T. L. Mead, Jr.; "A Merry Time," Sinsaburo Niwa; "Fitting for the Banks," Malcolm D. Miller, M.D.; "News in Chinatown," George Scherr; "Sunrise on the Pacific," Louis Fleckenstein; "On the Banks of the South Esk, Tasmania," E. W. Gibson; "Gimme a Paper," G. Harrison Truman.

Answers to Correspondents

Readers wishing information upon any point in connection with their photographic work are invited to make use of this department. Address all inquiries to ELIZABETH FLINT WADE, *321 Hudson Street, Buffalo, N. Y. If a personal reply is desired, a self-addressed, stamped envelope must be enclosed.*

FRED. H. J.— **Reducing Dark Prints.** To reduce your dark prints make up ten per cent solutions of ammonium sulphocyanide and potassium ferricyanide. To each ounce of water use one hundred minims of the sulphocyanide and ten minims of the ferricyanide solutions. This is to be used after the prints are toned and fixed. When the print is sufficiently reduced wash well and dry.

BEN. K. L.— **Sepias on Black Platinum.** Yes, you can use the mercuric chloride for obtaining a sepia tone or reddish brown on black platinum prints. The solution is used hot. Your formula will give very good satisfaction. In putting through the hydrochloric acid bath use one ounce of the acid to one hundred and twenty ounces of water instead of the strength used for the gray prints.

CHALMERS F. G.— **Binding Slides.** Do not try to make your binders for lantern-slides. Buy those already gummed which are cut the proper length for a slide. They are easy to manipulate and are so very cheap that it does not pay to waste one's time cutting and gumming strips. **Adhesive.** A very stout adhesive is made of two parts of water and four parts of fish-glue which, when dissolved, has added to it one part of sugar.

D. N. B.— **Intensification.** Evidently your negative has not been sufficiently developed. You can re-develop or you can intensify the negative. Use copper sulphate for intensifying, or else uranium. There seems to be plenty of detail, and with care you ought to be able to bring the negative to a good printing-quality.

SALLY H.— **Green Stain.** The greenish stain which you say is on several of your negatives is doubtless what is known as "green fog." This is usually due to too much alkali in the developer. To remove, make a solution of fifty grains of thiocarbamide, twenty-five grains of citric acid and five ounces of water. Soak the plate in this solution till the fog is removed, then wash well and dry. **Yellow Stain.** To remove the yellow stain, use a weak solution of iron perchloride. **Use of Rough Paper.** Use rough Velox for the print and you will have a very much more artistic picture than when printed on smooth paper. This negative has not fine detail enough to look well on smooth paper.

L. G. T.— **Making Prints Flat.** Bromide prints may be made to lie flat, so that they can be used for illustration, by simply soaking the prints for fifteen minutes in a solution of glycerine, using one-half ounce of glycerine to eight ounces of water.

DAVID L. S.— **Acetic Acid.** When acetic acid is one of the ingredients of a formula use the "glacial acetic acid." That is what is intended, but the adjective is sometimes omitted. **Pigment Print-Hardener.** A bath for hardening pigment prints is made by dissolving one ounce of powdered alum in twenty ounces of water, and then adding thirty minims of hydrochloric acid. Place the print in this bath for five minutes, then rinse in cold water and dry.

SILVIO PAINI.— **Retouching Paper Positives.** To retouch or work on paper positives for the gray platinum use moist-color lampblack, thinning it until the tone of the part of the print to which it is to be applied is reached. For large places wash over with one sweep of the brush, let dry and if not deep enough repeat the process. If for small spots of white take a little color on the tip of the brush, which has previously been brought to a fine point, and then touch the white spot with it. Let it dry before applying a second coat. For sepia platinums use warm sepia and lampblack mixed to the right tone of the print and apply in the same way. For printing-out papers use the spotting-colors which come specially prepared for use with this paper.

MRS. A. C.— **The Use of Bromide.** The trouble with your prints is that you used too much potassium bromide in the developer, hence the peculiar tone of the prints. **Marks on Aristo Prints.** To remove marks on the surface of Aristo prints use a little of the concentrated toning-solution and rub lightly and the spots will disappear. Rinse well after applying.

K. V. C.— **Photography Abroad.** Use tinfoil for wrapping films when going abroad. It is wise to take a good supply of material with one, for films are now so protected that they are not affected by the moisture of the sea-voyage. In Germany, France and England one can get material, but in Italy it is sometimes hard to find what one wants in the way of films and plates. Yes, you can make exposures *en voyage* and either develop at once or you may have the films well protected and have them developed when you arrive.

J. B. SMITH.— **Hydroquinone Stain.** You did not say what developer you used. If hydroquinone, you can remove the stain by applying a weak solution of Farmer's reducer with a wad of absorbent cotton, rinsing between each application. This will remove the stain effectually. Wash well and dry. **Pyro Stain.** If stained with pyro developer make up a solution of one-half ounce of citric acid, one and one-half ounces of ferrous sulphate, one-half ounce of alum and ten ounces of water. Place the plate in this bath until the stain is removed. The plate should be examined frequently, and as soon as clear wash well and dry.

JOSEPH LANE.— **Hypo Eliminator.** The best eliminator of hypo from the negative is water. If a plate is washed freely there is no danger of hypo remaining in the film. To de-

stroy hypo use potassium percarbonate. Rinse the plate after fixing, place in a tray, cover with water and add from three to five grains of the potassium percarbonate. Rock the tray gently and when the liquid ceases effervescing remove the plate and wash for five or ten minutes.

CARL MENZIE.— **Copying a Map.** To make a lantern-slide map, attach the map to the wall so that it will be perfectly smooth. This can be done by using artists' thumb-tacks, which leave no mark of consequence on the paper. Set up the camera in a vertical position and so arranged that the focusing-glass is parallel with the map. The lens should point to the center of the map. Focus sharply, using as large a stop as will give clear definition at the corners. This is quite necessary, and may result in having to use a smaller stop and prolonging the exposure. Have the map evenly illuminated, the light shining on it directly instead of from one side. If the weather permits the map may be attached to the side of the house outdoors, when the illumination is, of course, even and the exposure very much shortened.

ELLEN D. R.— **Making Solutions.** In making up photographic solutions dissolve the ingredients in the order named in the formula. When using dried sodium sulphite stir the water as you drop the chemical into it. If not, the soda is likely to harden and needs very vigorous shaking to dissolve it. If the water is kept in active motion when chemicals are added they dissolve more readily and there is not likely to be any sediment at the bottom.

N. B. FARRAR.— **Developer for Under-Exposed Soft Pictures.** Use a diluted developer for short exposures. It works much slower, but gives much better detail than the stronger developer. Do not use hydroquinone by itself for soft negatives. Combine it with either eikonogen or metol, preferably the latter. The metol gives detail; and the hydroquinone, density.

BERTHA M. B.— **Machine Development.** It would seem from your letter that the trouble with your developing with the machine is that you do not use strong enough developer. You did not state the proportions, but from the fact that you use twenty-eight ounces of solution it may have been too weak. The film should remain very much longer in the machine when the developer is below normal strength, increasing the time of developing according as the developer is weakened. If half the strength of normal, then leave the film in twice as long, and so forth.

S. D. P.— **Mounting.** You will find the cover-papers or art-papers much better for mounting prints than the commercial mounts. You will find in the columns of PHOTO-ERA advertisements of these papers. Any dealer will be glad to send you samples from which to make your selection. Do not paste the print flat. Attach it to the mount by the top edge, using a good paste. All platinum prints will lie flat, and the effect is much better than if the picture is pasted smoothly to the mount.

Print-Criticism

Address all prints for criticism, enclosing return postage at the rate of one cent for each two ounces or fraction thereof, to ELIZABETH FLINT WADE, *321 Hudson Street, Buffalo, N. Y. Prints must bear the maker's name and address, and should be accompanied by a letter, sent separately, giving full particulars of date, light, plate or film, stop, exposure, developer and printing-process.*

"THE MARSHES," C. G. H.— This picture might be more appropriately called "The Pool," for it shows a pool of water with slender trees growing on one side, while on the other are reeds and rushes. In the immediate foreground is a large tree, the stem and the lower branches being all of it that is included in the picture. This is quite an interesting picture on account of the way the lights and shadows have been managed.

The time of day has been well chosen, being either early morning or late evening, so that the line of light on the horizon suggests either the rising or setting sun. The special fault of this picture is the conflicting of lines. The trees on the shore and their reflection in the water are two sets of lines, the tree in the foreground leaning a little toward the center of the picture makes another line and the edge of the pool running at an angle up into the reeds makes still another line. In a picture of such a scene these defects are hard to avoid, but by moving one's camera a little one can more often than not succeed in bringing all the lines into harmony.

"THE MARKET-PLACE," C. M. R.— This is a subject which always appeals to the amateur and the artist alike — a scene in an old Dutch market.

This market, however, was not taken either in Holland or Germany, but in America. In the present day, with our cosmopolitan population, one finds in the larger cities typical markets of certain nations. There is the Polish market, the Syrian market, the Dutch market, etc., etc., and the amateur has only to seek out these national marts which have been literally transplanted to our own country to find some very interesting and attractive subjects. In this case the market-scene shows a stall laden with all sorts of things which Germans love. Among the pile of cakes and sweetmeats at one side one can fancy he sees the Marzipan Brod, the Pfeffernüsse and the Lebkuchen so dear to the little Dutch maidens. A row of wooden shoes adorns the front of the stall.

Behind this very attractive board, so full of all sorts of things to tempt the buyer, is a stout, merry-faced German woman, ready to serve her customers, a group of whom are standing examining the stock and evidently making careful selection. This is a snap-shot, and if the ama-

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teur had waited a little and chosen just the right moment he would have secured a very interesting genre-picture. The figures in front of the stall are very much too large in comparison to the owner, and this is owing to the camera being so placed as to bring the figures in different planes. The camera at one side would have obviated this and the figures would have had their respective proportions. This is one of the faults of hit-or-miss snap-shots, especially when figures are included in the picture. One should learn to train his eye and hand alike, so that he may judge correctly and at the proper instant secure the desired picture.

"THE PLOUGHMAN," Dr. F. H.— This picture shows a man ploughing a field — not an unusual subject, but in this case very well treated. The picture is taken against the light, and the man and horses are in the shadow, the highlight just touching the shoulders of the man and the backs of the horses. The charm of this picture is its interesting background. Far away on the horizon one sees trees, scattered houses here and there and a church-spire rising from the midst of them. The light is that of late afternoon and the shadows are soft. The sky, while showing only light clouds, still gives the impression of the rather vivid light of a declining day. The fault of this picture is in the strong shadows on the freshly-turned furrows and the very light color of the unploughed field. As the line which has been taken by the plough runs diagonally across the picture with nothing to break its continuity a print could be made from this negative by judiciously masking the foreground — the deeply-shadowed furrows — and equalizing the tone a little more. In other respects this would make a "worth while" picture. The print would bear trimming at the lower edge, which would improve the composition and bring the objects on a more uniform plane.

"WAITING," H. I. O.— This is a picture of a young woman standing in a woodland path, her head turned as if watching or waiting for some one to appear at the far end of the path which is faintly discernible through the trees. The figure in this picture is very gracefully posed, there being an unconsciousness of being photographed which is very attractive. The detail is well brought out and there is real depth to the woodland. This picture would be improved by trimming it at the top enough to cut off the patch of white which is the sky but which does not help the composition. This would make a good enlargement, using a rough bromide paper and getting the masses of light and shadow in their true values. In the enlargement the white collar worn by the young woman ought to have a little detail worked into it, using moist water-color and a soft camel's-hair brush.

Plate-Speeds for Exposure-Guide on Opposite Page

Class 1/2

Lumière Sigma
Lumière Non-Halation Sigma

Class 1

Ansco Film, N. C. and Vidil
Cramer Crown
Cramer Crown Non-Halation
Cramer Instantaneous Iso
Cramer Inst. Iso Non-Halation
Cramer Isonon
Cramer Trichromatic
Defender King
Defender Ortho Inst.
Eastman N. C. Film
Ensign Film
Hammer Special Extra Fast
Imperial Special Sensitive
Imperial Orthochrome Special Sensitive
Kodoid
Magnet
Premo Film Pack
Seed Gilt Edge 27
Standard Imperial Portrait
Standard Polychrome
Stanley Regular
Wellington Extra Speedy

Class 1 1/4

Cramer Banner X
Cramer Banner X Non-Halation
Eastman Extra Rapid
Hammer Extra Fast
Hammer Extra Fast Ortho
Hammer Non-Halation
Hammer Non-Halation Ortho
Seed 26x
Seed C. Ortho
Seed L. Ortho
Seed Non-Halation
Seed Non-Halation Ortho
Standard Extra
Standard Orthonon
Wellington Speedy

Class 1 1/2

Lumière Ortho A
Lumière Ortho B

Class 2

Cramer Medium Iso
Cramer Medium Iso Non-Halation
Wellington Iso Speedy

Class 2 1/2

Cramer Anchor
Hammer Fast
Seed 23
Lumière Panchro C

Class 4

Stanley Commercial

Class 5

Cramer Commercial
Defender Non-Halation Plain
Defender Non-Halation Ortho
Defender Ortho Slow
Hammer Slow
Hammer Slow Ortho

Class 8

Cramer Slow Iso
Cramer Slow Iso Non-Halation

Class 12

Defender Queen
Seed Process

Class 100

Lumière Autochrome
Lumière Red Label Slow

The Round Robin Guild Exposure-Guide For January

COMPILED BY PHIL M. RILEY

UNDER this caption a brief table of exposures will be given in each issue for the guidance of Guild members during the following month. While the figures are indicative only, they will be found approximately accurate for the assumed conditions they have been applied to. If the exposure-times given are not considered imperative, but as suggestions, possibly to be varied slightly at the discretion of the worker, these tables will prove of great benefit to all who use them.

The table below gives the exposures required by the different subjects and plates mentioned during the month of January on any fine day at noon, when the sun is shining brightly and the lens is working at f/8, or U. S. No. 4.

Double the exposure if the sun is obscured but the light is fairly bright, or if f/11, U. S. No. 8, is used. Treble it when the light is rather dull, and between 9 and 10 A.M. and 2 and 3 P.M. Increase it four times when there are heavy clouds and very dull light, or if f/16, U. S. No. 16, is used. For f/5.6, U. S. No. 2, give half. At 11 A.M. and 1 P.M. increase the exposure one-fourth. From 10 to 11 A.M. and 1 to 2 P.M. increase it one-half.

SUBJECTS	PLATES (List on Opposite Page)											
	Class ½	Class 1	Class 1¼	Class 1½	Class 2	Class 2½	Class 4	Class 5	Class 6	Class 8	Class 12	Class 100
Studies of sky and fleecy clouds; open snow-scenes without foreground	1/512	1/256	1/200	1/160	1/128	1/100	1/64	1/50	1/40	1/32	1/20	2/5
Open views of sea and sky; very distant landscapes; studies of rather heavy clouds; winter-scenes having very light snow-covered foregrounds	1/256	1/128	1/100	1/80	1/64	1/50	1/32	1/25	1/20	1/16	1/10	4/5
Open landscapes without foreground; open beach, harbor and shipping-scenes; yachts under sail; very light-colored objects; studies of dark clouds; average snow-scenes	1/128	1/64	1/50	1/40	1/32	1/25	1/16	1/12	1/10	1/8	1/5	1 3/5
Average landscapes with light foreground; river-scenes; figure-studies in the open; light-colored buildings and monuments; wet street-scenes; snow-scenes with excessive contrast	1/64	1/32	1/25	1/20	1/16	1/12	1/8	1/6	1/5	1/4	2/5	3 1/5
Landscapes with medium foreground; landscapes in fog or mist; buildings showing both sunny and shady sides; well-lighted street-scenes; persons, animals and moving-objects at least thirty feet away	1/32	1/16	1/12	1/10	1/8	1/6	1/4	1/3	2/5	1/2	4/5	6 2/5
Landscapes with heavy foreground; buildings or trees occupying most of the picture; brook-scenes with heavy foliage; shipping about the docks; red brick buildings and other dark objects; groups outdoors	1/16	1/8	1/6	1/5	1/4	1/3	1/2	2/3	4/5	1	1 3/5	13
Portraits outdoors in the shade; very dark near objects	1/8	1/4	1/3	2/5	1/2	2/3	1	1 1/3	1 3/5	2	3 1/5	26
Badly-lighted river-banks, ravines, glades and under the trees	1/4	1/2	2/3	4/5	1	1 1/3	2	2 2/3	3 1/5	4	6 2/5	51
Average indoor portraits in well-lighted room, light surroundings, big window and white reflector	3/4	1 1/2	2	2 2/5	3	4	6	8	10	12	19	154

In order to make the exposures as accurate as possible after the final multiplications, all fractions accompanying whole numbers have been allowed to remain in this table, except when the whole numbers were so large that fractions might be disregarded as negligible. In such cases approximate figures have been given. Shutters will not always give the exact exposure required, but the nearest speed may be used if it is approximately correct. When the nearest speed is too short open the diaphragm a little; when too long, close it a little. Let the exposure be a little too long rather than too short, and the more contrast there is in the subject the more it may be over-timed. Over-exposure, unless excessive, can be controlled in development, but under-exposure will not give a satisfactory negative.

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OUR ILLUSTRATIONS

OUR cover presents a startlingly realistic winter scene in which shadows furnish the motive. Although a daylight exposure, the use of bluish green carbon gives the effect of moonlight. Data: January, 11.30 A.M.; bright light; anastigmat lens, 12-inch focus, f/16; B. & J. 3-times filter; 2 seconds' exposure; Orthonon plate; pyro factorial development; carbon print printed from the reverse side of the negative.

"The Swing," by C. Yarnall Abbott, is in every way unique. Taken against the light, the result is an interesting effect of contrasted sunlight and shadow in masses which are well spaced. No data are available.

In his article on the Salon President Stevens has spoken individually of several prints; therefore it is sufficient to record only the data here.

"The Dancer," C. Yarnall Abbott. P. and S. Semi-Achromatic lens, 16-inch focus, wide open; 8 x 10 plate; edinol developer; platinum print.

"Under the Studio-Light," H. E. Stout. 8 x 10 Century camera; Gundlach lens, 18-inch focus, f/6; March, 3 P.M.; bright light; 10 seconds' exposure; Orthonon plate; rodinal developer; platinum paper.

"Summer Sunlight," Paul Lewis Anderson. Century View-camera, 8 x 10; P. and S. Semi-Achromatic lens, 16-inch focus, f/6; B. & J. Ideal 3-times filter; July, 3.30 P.M.; intense light; $\frac{1}{4}$ second exposure; Cramer Isonon plate; pyro-acetone developer; American platinum print.

"Landscape," F. J. Bruguière. Century View-camera, 8 x 10; P. and S. Semi-Achromatic lens, 14-inch focus, wide open; August, 4 P.M.; bright sun; $\frac{1}{2}$ second exposure; Standard plate; pyro-metol developer; platinum paper.

"The Closed Door," W. and G. Parrish. Premo camera, $6\frac{1}{2}$ x $8\frac{1}{2}$; summer, west two windows; 80 seconds' exposure; Stanley plate, 5 x 7; pyro-soda developer; Mirmont Semi-Matt paper.

"Winter on a Winding Stream," by John Chislett, is one of those soft, misty scenes which we so often associate with the name of this pictorialist. The sweeping curves of the stream in opposition to the vertical trees furnish interesting material indeed. Data: Rochester View-camera, 8 x 10; P. and S. Semi-Achromatic lens, 16-inch focus, wide open; February, 2 P.M.; faint sunlight; cap exposure 1 second; Cramer Inst. Iso plate; ortol developer; dark blue carbon print through a plate of glass to give a softer effect.

"Homeward Bound," F. L. Wright. Data: Korona camera, 5 x 7; front combination of Turner-Reich lens, 18-inch focus, f/16; Cramer light-filter; September, 10.30 A.M.; 1 second exposure; Cramer Iso plate; pyro developer; proof on P. O. P. paper copied on 8 x 10 plate, and printed on Barnet Cream Crayon bromide.

"Sunlight and Shadow," by W. E. Macnaughtan, is another of his many delightful summer scenes which are always so convincing in their rendering of "sunlight-warmth" and cloud-effects. Data: 4 x 5 Graflex camera; Cooke lens, $8\frac{1}{2}$-inch focus, f/11; June, 10 A.M.; good light; $\frac{1}{50}$ second exposure; film; Eastman pyro developer; platinum print; clouds, double printed.

No data are available regarding "The Guitar," by Baron A. de Meyer, "Brittany," by Robert Demachy and "The Canal," by E. A. Loeb. The first is a pleasing effect of sunlight; Demachy's print, a characteristic scene cleverly treated for pictorial effect; and the last shows a "bigness" of arrangement which is in keeping with the modern tendency in Europe.

All of the Nuremberg views by Mr. French were made late in August with a Folding Hawk-eye camera, $3\frac{1}{4}$ x $4\frac{1}{4}$; Voigtländer Collinear lens, Series 3, $5\frac{1}{4}$-inch focus; Eastman film; pyro-metol tank development; prints for reproduction on Solio and enlargements on Artura. "View on the Pegnitz," hazy, 11 A.M.; f/12; $\frac{1}{25}$ second. "Fruit-Market," dark, 11.30 A.M.; f/9; $\frac{1}{25}$ second. "Weinstadel and Henkersteg," dark, 3 P.M.; f/12; $\frac{1}{5}$ second. "Watching the Camerist," sunny; 11.15 A.M.; f/9; $\frac{1}{25}$ second. "A-marketing," sunny, 11.20 A.M.; f/9; $\frac{1}{25}$ second. "Al Fresco Luncheon," hazy sun, 10 A.M.; f/9; $\frac{1}{10}$ second. "Der Henkersteg," faint sun, 5 P.M.; f/9; $\frac{1}{10}$ second. "A Souvenir of Nuremberg," dark, 4.10 P.M.; f/9; $\frac{1}{5}$ second.

The Monthly Competition

As was to be expected, the "General" competition brought forth the largest number of entries ever received in a Guild contest. A group of honorable mention prints is here reproduced, and others will appear singly in later issues. First honors went to Paul Lewis Anderson for "Boys Swimming," a beautiful treatment of commonplace material. The figures are well placed and the atmospheric quality delightful. Data: August, 4 P.M.; intense light; P. and S. lens, f/8; Cramer Isonon plate; Ideal ray-filter; 1 second exposure; pyro-acetone developer; American platinum print, mercury developed.

One of the most successful atmospheric effects ever produced by a Guild member is "An Autumn Morn," by Richard Pertuch. The scene itself is one of veritable enchantment. Data: September, 8 A.M.; foggy; rear combination of Collinear lens, f/5.6; 1 minute exposure with ray-filter; M. Q. developer; Velox enlargement.

Paul Wierum's third-prize print is an example of the pictorial possibilities of small negatives. It has the appearance of a charcoal drawing, but was worked up from a 2A Brownie film, enlarged and copied on a 5 x 7 plate, from which another enlargement was made on Monox bromide paper. Data: April, dull light; Eastman film; f/16; snap exposure; pyro developer.

NOTES AND NEWS

Announcements and Reports of Club and Association Meetings, Exhibitions and Conventions are solicited for publication

The Philadelphia Y. M. C. A.

STRUGGLING along for some years under "facilities" that it is a farce to so designate, but with some of its members hopeful for and working up an interest in its future development, the realization of success seems to be at last in sight for the Central Branch Y. M. C. A. Camera Club of Philadelphia, Penn.

The Association recently erected the most modern building for its purposes, costing $1,000,000, and included plans for the camera club. Complete equipment followed, and the club, lately reorganized, is looking forward to its first winter's work with superior facilities. The rooms and equipment include the following: a developing-room with four stalls, each complete with all details, while a 3-speed electric fan ensures ventilation; a studio, 14 x 29 ft., arranged for both daylight and night portraiture and containing an 8 x 10 New York Studio portrait-camera with B. and L. Unar Portrait lens, backgrounds, screens and reflectors, posing-furniture, platform on rollers, dark-room for changing plates, Aristo lamp for night photography, etc. Adjoining is the locker-room. Another room is equipped with enlarging and lantern-slide cameras illuminated with a Helios light. A box printing-apparatus affords ample opportunity for night printing, while the window to this room is equipped with adjustable white or ruby glass. Another room, with walls lined with soft pine covered with cloth, was arranged for exhibition-purposes. Many photographs ornament the social room, and comfortable chairs, rugs, reading-matter, plenty of light, etc., make the whole attractive. Troughs, running water trays, washing-tanks, graduates, electricity, trimmers, etc., have been supplied in abundance and variety wherever needed. A splendid projection-lantern is accessible for the use of the club. The usual rules of first-class clubs have been adopted. A good membership-committee with power to act ensures desirable members only. The club affords the amateur an opportunity of no small value when he has reached the limit of private facilities, as well as the beginner who is ambitious to do good work. Ladies can be taken to the studio to be photographed. The president is M. M. Osborne; secretary, Charles Hayllar.

PORTRAIT-STUDIO OF THE PHILADELPHIA Y. M. C. A.

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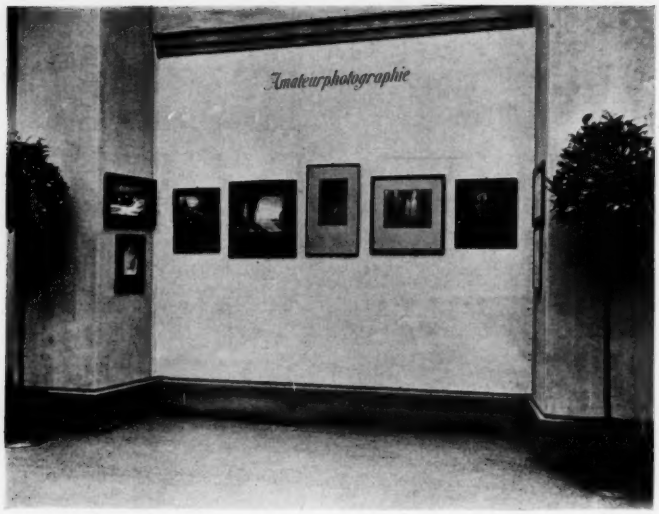

AMERICAN EXHIBITS AT THE DRESDEN EXPOSITION

Americans at Dresden

In the photograph above is shown an interesting group of American photographs at Dresden. From left to right the prints are as follows: (upper) "The Wave," F. H. Thompson; "Portrait," Chas. O. Axell; "September," E. B. Sides; "Lombard Poplars," "Twilight," and "Italian Evening," W. H. Porterfield; "Evening," Oscar C. Anthony.

Worcester Exhibition

The Sixth Annual Exhibition of photographs at the Worcester Art Museum, Worcester, Mass., was held from October 30 to November 29. Mr. Dwight A. Davis deserves great credit for his efforts to collect a beautiful and representative collection of pictorial photography from all parts of the country. Nearly three hundred prints were shown, and the usual high standard was maintained.

Camera Club Print Interchange

This ambulatory collection appeared at the Boston Camera Club early in December, the exhibitors being members of the Portland Camera Club. Twenty-eight prints were shown, but, although the number was small, the artistic standard was high. Among the pictorialists represented were S. S. Skolfield, H. A. Roberts, H. A. Peabody, C. F. Clarke, F. W. Shaw, E. E. Cheney, George H. Fogg and others.

The members of this Interchange consist of the following clubs: Capital Camera Club, Washington, D. C.; The Photographic Camera Club of Baltimore; The Photographic Society of Philadelphia; Orange Camera Club; Boston Camera Club; Portland Camera Club; Photo-Pictorialists of Buffalo; Chicago Camera Club; Akron Camera Club, and The Photo-Section, Academy of Science and Art, Pittsburg, Penn.

F. H. Thompson

It is with the utmost regret that we are obliged to record the suicide of F. H. Thompson, president of the Thompson Art Co., Portland, Me., in November. Worry over business matters is believed to have been the cause. Mr. Thompson was widely known as a successful photographer, and particularly for the Taco art-prints, which are to be found in most art-stores. He was a widower, and is survived by a son, Frederick M. Thompson, of Boston. Mr. Thompson will be very much missed, not only in the camera club, but in Masonic and numerous other circles, where his kindly disposition and helping hand made him a universal favorite. He was a great lover of nature in all her different aspects. His collection of microscopic slides is probably one of the finest individual collections that could be found anywhere. He entered no line of work but to excel. This he exemplified again later in life in his work with a camera. The beautiful things in life, as well as in nature, were instinctive with him, and his constant aim was perfection in all its minute details. For several years he was president of the Portland Camera Club, and could have had the office longer if he would have accepted it, but other business matters prevented.

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A New Photographic Industry

ROCHESTER is to have a new and important photographic industry in the Fireproof Film Company, with a capital stock of $1,500,000. Henry Kuhn, formerly vice-president of the Defender Photo-Supply Co.; J. E. Thornton, the well-known English chemist and inventor, and others not yet announced are prominently identified with the enterprise. A building-site has been secured and a $300,000 concrete factory will soon be erected. The concern will not confine itself to the manufacture of film exclusively, but will place upon the market a variety of photographic supplies and devices.

An Eminent Pictorialist in Spain

WE are glad to see that Spain, with its notable architectural beauties, including many left by the Romans and the Moors, is engaging the attention of our American pictorial workers. Mrs. Eleanor W. Willard spent six months in that interesting country not long ago, and now Mr. William H. Phillips will make a camera-tour to Andalusia and other sections of the Iberian peninsula from January 10 to March 10 of this year. Like Mrs. Willard, he will return with a goodly number of pictures with which to charm his friends.

That which pleases the eye reaches the heart. Good materials produce good photographs. PHOTO-ERA *tells you where to buy them.*

Popular Lenses

MESSRS. A. E. Staley & Co., 19 Thavies Inn, a few feet from Holborn Circus, London, are dealers in photographic supplies, principally optical goods for photography. Mr. Staley, Jr., informed us, when we called on this firm, early last September, that he was doing a splendid business in Bausch & Lomb microscopes, which were imported from Rochester, N. Y.; also in photographic lenses, of which he carried the well-known Orthostigmatic, made by Steinheil & Sons, Munich, Germany. Mr. Staley informed us that the demand for these excellent lenses was steadily on the increase, and, from what he had learned, their popularity was well established in the United States.

Louis Fleckenstein

THE many friends and admirers of this eminent pictorialist will be glad to know that he is enjoying a high degree of success and prosperity in his new home, Los Angeles, Cal. Even a month before Christmas he was overwhelmed with orders — all important and lucrative ones. One is always glad to hear that artistic efforts along sane lines joined to high-minded and logical business-methods are adequately recognized, as they are in this case. Mr. Fleckenstein enjoys the support and respect of a patronage in his city of which many a *confrère* in one of our larger cities might well envy him. We are sure that all wish Mr. Fleckenstein continued health and success.

The independent policy and high standard maintained by PHOTO-ERA *have placed it in a class by itself. It never aspired to lead those who also ran — competition has been too great.*

BOOK-REVIEWS

Books reviewed in this magazine, or any others our readers may desire, will be furnished by us at the lowest market-prices.

PHOTOGRAPHIC OPTICS AND COLOR-PHOTOGRAPHY, by G. Lindsay Johnson. Numerous illustrations, including several color-plates. Price, $3.00 net; postage, 10 cents. D. Van Nostrand Company, New York, 1909.

This is the first of a proposed series of handbooks by the author in which is given a brief description of the various existing forms of lenses and cameras, as well as of all the simple problems connected with the lens and general photographic optics, including the principles of lantern-projection, kinematography and the theory and practice of the formation of the image —each subject illustrated by abundant examples. This important feature is found in no other books hitherto published on this subject. The author, with exceptional fairness, has selected the best in each department, whether of English, German or American manufacture. Prejudice finds no lodgment in his mind. The subject of color-photography, embracing the several systems now in use, is treated with admirable thoroughness and perspicuity. There are several very successful facsimile reproductions of autochromes — one in particular, an opal in matrix, which is an example of exquisite realism. We do not hesitate to pronounce the work the best yet written in the English language. It should have a place in the library of every student and optician.

PHOTOGRAMS OF THE YEAR 1909. Edited by H. Snowden Ward, F.R.P.S. Price, paper covers, $1.00; cloth-bound, $1.50. Tennant & Ward, New York; Dawbarn & Ward, Ltd., London.

This, the latest issue of the popular English annual, is, like the preceding issues, full of interest. The text is devoted to papers on "Pictorial Photography in France," by Robert Demachy; "Pictorial Photography in Spain," by Manuel Mendez Leon; "Artistic Photography in Germany," by Matthies Masuren; "Artistic Photography in Australia," by Walter Burke, and "Work of the Year," by H. Snowden Ward. The illustrations, of which there is the usual number, have been selected with discrimination, and illustrate the various schools, including those of America. In comparing the pictures of the vari-

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ous workers represented, one is impressed by the various methods of composition, several of which — multiplicity of detail and divided interest (see examples by Demachy, Puyo and others) — illustrate a weakness still common among pictorial workers. On the other hand, simplicity in composition illustrates a means to higher artistic achievement. The most pleasing illustrations of this issue of *Photograms* are by Moffat, Annan, Keighley, Mortimer, Whitehead, Holding, Marshall, Dührkoop, Ziesemer, Hofmeister, Sury and Misonne. In his foreword the editor regrets that his work on the book was closed before the greater exhibitions were open, thus missing the opportunity to reproduce some important pictorial works. It so happens that among the illustrations is a large number of subjects exhibited at the 1909 London Salon and not a few which appeared at the "Royal." While Mr. Ward's work is worthy of commendation, the absence of a chapter on American pictorial photography is regretted. It is hoped that the next issue will not be marked by this deficiency. The volume is worthy to be added to the library of every person interested in the progress of pictorial photography.

THE A B C GUIDE TO AUTOTYPE CARBON PRINTING. Price, 50 cents, post-paid. Dawbarn & Ward, Ltd., London. American agent: George Murphy, Inc., 57 East 9th St., New York City.

"If there is published a simple and reliable guide to carbon printing, I will buy it at once!" This remark has been made to us a great many times, and the inquirers will be glad to know that such a book is now on the market. Its author is the late J. R. Sawyer, but the work is revised to date. The volume consists of seventy-five well-printed pages, and includes numerous photographs showing the methods of manipulation. This makes the book all the more valuable to beginners, to whom it is highly recommended.

COMPOSITION IN PORTRAITURE, by Sydney Allan (Sadakichi Hartmann). 136 illustrations in half-tone and numerous diagrams. Large 8vo. Price, $3.00. Edward L. Wilson, New York.

Among the numerous treatises on composition written for the express benefit of the professional photographer, none approaches in practical value the volume by Mr. Allan. Few professional art-critics have mingled with photographers of repute so freely as has Mr. Allan, who seems to have acquired an intimate knowledge of studio-methods and dark-room operations. This, added to a thorough acquaintance with the possibilities and limitations of the photographic art, enables the author to impart to his instructive treatise conspicuous directness, simplicity and clearness. After indicating the character and pose of the head Mr. Allan treats in detail the profile view of the face, the full-face and three-quarters view, exhausting their artistic possibilities; standing and sitting positions; backgrounds; portrait groups; tone and values, and light-effects. In discussing these different subjects the author calls to his aid notable but not threadbare examples of modern painting, as well as specimens of photographic portraiture from native and foreign schools, illustrating certain points which, in his opinion, should be either emulated or avoided. In these criticisms Mr. Allan displays rare intelligence, penetration and, what is rarer still, genuine impartiality. His preference of modern painters to the old masters, so far as they may aid the portrait-photographer, is interesting, and warranted by sound judgment. The illustrations are wisely chosen and finely reproduced. The book makes a legitimate appeal to every worker in portraiture.

THE ART OF THE BELGIAN GALLERIES, by Esther Singleton. Large 12mo. 48 full-page duogravures. Price, $2.00, net. L. C. Page & Co., Boston.

This volume is a valuable addition to the attractive series of illustrated hand-books of famous picture-galleries published by L. C. Page & Co. The author describes the masterpieces of Flemish art to be found in Antwerp, Brussels, Bruges and elsewhere in Belgium, embracing the works of the artists of the XVth century up to the present time. The book is a decided help to the students in tracing the course of Flemish art and its influence upon the latter-day French painting. The first portion of the work is devoted to short biographies of the chief masters who are represented in the Belgium galleries, and includes several great artists, such as Frans Hals, wrongfully claimed by the Dutch. The author treats her subject in a highly creditable manner, and a thorough perusal of her illuminating pages affords an excellent preparatory education to all who intend to visit the Universal Exposition of Brussels this year. The illustrations are of paintings which, while important, have not become common by reproduction. The volume is extremely attractive in its rich, decorative binding and, with its valuable contents, reflects great credit on the sagacity and taste of the publishers, L. C. Page and Company.

DELFTWARE, DUTCH AND ENGLISH, by N. Hudson Moore. Copious illustrations. Price, $1.00, net. Frederick A. Stokes Co., New York.

An interesting and instructive story this, of the Dutch potters, their process and their creations. Mr. Moore's little volume is inviting to Americans, in particular; for choice specimens of Delftware are found not only in the Rijks Museum and the British Museum, but in the art-museums of New York and Boston, from which productive sources the author has obtained most of the illustrative material for his hand-book. To his knowledge of the fine arts the photographic practitioner should add an acquaintance with the art of pottery, which will enable him to enjoy intelligently the many beautiful specimens to be found in art-museums and private collections.

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WITH THE TRADE

Vulcan Dry-Plates

THE Defender Dry-Plate Company made a happy selection of a name for the new dry-plate which is now being marketed — Vulcan Dry-Plate! If we recall our mythology, Vulcan was the brawny god of the Greeks who, in his mammoth smithy under Mount Etna, forged the thunderbolts of Jove. Do you get the connection? One of the principal factors in a dry-plate is speed. When we want to tell how unusually fast something is we say it is "quicker than lightning." So, do you see, in honor of the maker of Jove's thunderbolts, the Defender Dry-Plate Company called its unusually speedy dry-plate the Vulcan Dry-Plate. The company makes more claims for the plate than speed, however; it says that the quality is second to nothing in the dry-plate line, that the plate has wonderful gradation, particularly fine grain and is very rich in silver. If these things are true — and there is no reason to doubt the statements of this reputable company — then the Vulcan Dry-Plate is something of a marvel. The Defender Company has been ever careful to make moderate claims for its products, so we will take it for granted that the Vulcan Dry-Plate is "the real thing."

The Goerz Catalog

SIX cents in stamps brings to any address the latest catalog of Goerz lenses. It is money well spent, for the book is at once the most artistic and yet thoroughly practical lens-catalog it has been our good fortune to see. The descriptive matter is quite on a par with the goods themselves, which are more varied and interesting this year than ever. Many beautiful reproductions demonstrate the merits of the various types of lens-construction, while the text gives the most detailed information. Of particular interest are the new types of cameras such as the Ango, the Folding Reflex, the Autofoc-Tenax and the Vest-Pocket Tenax. The Folding Reflex is unquestionably one of the most ingenious instruments ever devised, while the Vest-Pocket Tenax is the acme of compactness, although in conjunction with the special Tenax enlarger it gives excellent 5 x 7 prints.

Cooke Portrait-Lenses

IT is their wide range of usefulness that has made the Series VI Cooke portrait-lenses so popular. The mere revolving of the front portion of the mount to a given point introduces that roundness and softness desired by the good professional when photographing heads at close range, and this has the effect of gaining considerable depth of focus. For groups and figure-studies the softness may be reduced slightly at pleasure. The Series VI lenses are extremely compact and may thus be used for commercial work outdoors, with or without a focal plane shutter. With the revolving portion of the lens-mount set to its farthest limit these same lenses give mathematically fine definition to the edge of the plate, even with the full aperture of F/5.6, and may be used even for copying and enlarging with the same success as may the other series of Cooke anastigmats.

Pictorial Lenses

To this class belongs preëminently the P. & S. Semi-Achromatic lens, which is used with artistic effect by many prominent pictorialists, including A. L. Coburn, Clarence White, C. Yarnall Abbott, Paul L. Anderson, John Chislett and many others. Those interested are referred to the makers' "ad" in this issue and, for the price-list giving full description of these serviceable lenses, to Pinkham & Smith, 288 Boylston St., Boston.

An Attractive Show-Window

ONE of the numerous optical stores on Boylston St., Boston, Mass., and one which also carries a photographic department, is A. E. Covelle and Company. A few days after the Harvard-Yale football game this firm displayed in one of its windows a number of small enlargements representing some of the exciting episodes of that memorable game. Careful count was kept of the number of persons who examined these pictures in one day from 9 A.M. to 11 P.M. It proved to be over 12,000.

Hanging Photographic Prints

A VISIT, at this time, to the various camera clubs, picture-galleries, etc., where photographic prints are displayed shows how inadequate, even primitive, are the means employed to suspend them, whether framed or only mounted. The devices used for this purpose are often ludicrous. Sometimes the suspended prints will drop to the floor at the slightest touch or the faintest breeze, and the tender care devoted to the hanging of them is often attended with dire results. It is for this reason that the Handihook is hailed with joy throughout the land. It is simplicity itself, and yet constructed scientifically, so that when attached to the wall or any surface to hold a picture or other object it will be able to stand a tremendous strain before giving way, which very rarely happens. It can be instantly attached to any surface of wood, burlap, paper, plaster, fabric, whether the same be a solid or flexible. If you have any doubt about the resourcefulness of this simple little device send for a free sample to the manufacturers, August Goertz & Company, Newark, N. J., or the nearest dealer.

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Wellington Canvas Bromide

THE newest introduction of Wellington & Ward is a Cream Canvas Bromide. This paper has a delightful canvas-grain surface with a delicate cream tint for sepia toning. This grade of bromide is particularly adapted to exhibition work and high-grade portraiture. A special package of three sheets of 8 x 10 can be obtained for trial by sending 35 cents to Ralph Harris & Co., 26-30 Bromfield St., Boston.

The Isostigmar in the Navy

THIS popular-priced anastigmat seems to be selling very rapidly, and giving satisfaction wherever used. The American agents, Williams, Brown & Earle, of Philadelphia, Penn., are just now filling an order for two large lenses of 17-inch focus — one of them, a Series 1 A, to be used in the Navy Department.

Preparing for a Photographic Career

IN the December issue we mentioned a rare opportunity for students to obtain valuable professional experience under the famous German master of photography — Nicola Perscheid. We stated that the charge for tuition was one thousand Reichsmarks per annum. This was a mistake, and should have read fifteen hundred marks ($375) for the total length of time required to become proficient, whether it be one, two or three years. That there will be many applications by students is anticipated.

There is a saying, and a true one, that the United States can furnish thorough, practical courses, even in the fine arts and music, equal to those in Europe; and it cannot be denied that America can produce photographic experts as readily as can any European country. The facilities furnished by the Illinois College of Photography, for instance, commend themselves to all those who prefer to acquire a photographic education in this country.

Gold Medal to Ilford Products

AMONG the few manufacturing-firms who have been accorded a gold medal at the International Photographic Exposition, at Dresden, 1909, is the Ilford, Ltd., for their very superior papers and dry-plates.

The Ibso Shutter

THE Ibso is by no means an ordinary shutter. Although of medium price, it employs the sector system — which is acknowledged the fastest method known for inter-lens shutters. The Ibso is operable at speeds from $\frac{1}{150}$ to one second with bulb and time exposures and a very practicable safety-lock — a distinctive feature — which prevents accidental exposure. It may be operated with finger-lever or antinous release. The perfect finish and general workmanship, its lightness and simplicity, make it a shutter that will do credit to any high-class outfit. Burke & James, Chicago, Agents.

A Wise Investment

WHERE so much is done to satisfy the appetite of picture-lovers — and good pictures are not cheap — our readers are reminded that $5.00 is the price of twelve volumes filled with an abundance of pictorial art and art-literature of the highest quality — an investment we heartily commend to all. We refer to *The International Studio*, a standard monthly art-publication, published by John Lane Company, 110–114 West 32d St., New York. Combined with PHOTO-ERA the price of this treasure-trove is considerably reduced, the two costing but $5.55. Every issue is something to be pleasurably anticipated. The color-plates, of which there are several to an issue, alone are worth more than the price of subscription. The facsimile (in color) of Gregory's beautiful oil-painting, "Marooned," which embellished the sumptuous December number, 1909, would readily sell for $1.00. Appropriately framed, this effective bit of color will surely grace the home of any art-lover. As a help to pictorial composition and artistic decoration, besides its many other valuable features, *The International Studio* is quite unrivaled.

Mr. Hallen Burnt Out

WE are sorry to announce that the Hallen Studio, 500 Fifth Ave., New York, was entirely destroyed by fire November 25. Fortunately, we had the opportunity to select several prints illustrating the sterling merits of this artist's ability, which will be published in a near issue of PHOTO-ERA.

PHOTOGRAPHIC EXHIBITIONS

Information for publication under this heading is solicited

Society or Title	*Date*	*Entries Close*	*Particulars of*
Sixth American Photographic Salon			C. C. Taylor, Sec'y, 3236 Cambridge Ave., Toledo, O.
Chicago, Ill.	Feb. 1-28		
St. Louis, Mo.	Mar. 6-14		
St. Paul, Minn.	Mar 24 to Apr. 6		
Racine, Wis.	Apr. 20-30		